

# ALMANAC

## XX

# SOLAR ECLIPSES IN CE

The almanac XX contains a list of solar eclipses from the 1st millennium CE to the 6th millennium CE, from the 1st century CE to the 60th century CE.

## 1ST MILLENNIUM CE

In the 1st millennium CE the total number of solar eclipses was 2 351 solar eclipses: 816 partial solar eclipses, 809 annular solar eclipses (777 central annular solar eclipses with two limits, 15 central annular solar eclipses with one limit, 17 non-central annular solar eclipses with one limit), 652 total solar eclipses (643 central total solar eclipses with two limits, 4 central total solar eclipses with one limit, 5 non-central total solar eclipses with one limit), 74 hybrid solar eclipses.

# 1ST CENTURY CE

In the 1st century CE the total number of solar eclipses was 249 solar eclipses: 91 partial solar eclipses, 75 annular solar eclipses (73 central annular solar eclipses with two limits, 1 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 58 total solar eclipses (58 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 25 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
GREATEST		S										°	km	
ECLIPSE														
0001-Jun-10	06:43:59	10509	265	-24719	66	T	-p	0.3624	1.0617	44N	121E	69	218	04m56s

0001-Dec-03	20:05:20	10504	264	-24713	71	A	nn	-0.0396	0.9558	25S	79W	88	161	05m14s
0002-May-30	19:45:27	10499	264	-24707	76	H	p-	-0.4169	1.0087	3S	72W	65	33	01m00s
0002-Nov-23	05:06:00	10494	264	-24701	81	H	p-	0.6477	1.0074	20N	150E	49	33	00m45s
0003-May-20	01:41:14	10489	264	-24695	86	P	t-	-1.2320	0.5661	69S	139W	0		
0003-Oct-14	09:21:43	10485	264	-24690	53	P	-t	-1.3803	0.2916	71S	32W	0		
0003-Nov-12	19:36:15	10484	264	-24689	91	P	t-	1.2823	0.4770	70N	41W	0		
0004-Apr-08	11:38:55	10480	264	-24684	58	A	-p	0.8646	0.9486	62N	17E	30	375	04m15s
0004-Oct-02	23:52:06	10475	264	-24678	63	H	-p	-0.7367	1.0095	48S	156W	42	48	00m46s
0005-Mar-28	17:23:13	10470	263	-24672	68	H	nn	0.0788	1.0022	7N	37W	85	8	00m14s
0005-Sep-22	08:42:04	10465	263	-24666	73	A	nn	-0.0290	0.9626	0S	91E	88	135	04m25s
0006-Mar-18	06:04:51	10461	263	-24660	78	T	p-	-0.6567	1.0470	41S	150E	49	206	03m42s
0006-Sep-11	10:36:03	10456	263	-24654	83	A	p-	0.7050	0.9281	48N	82E	45	378	07m13s
0007-Feb-06	13:23:45	10452	263	-24649	50	P	-t	1.2691	0.5018	70N	10W	0		
0007-Mar-07	22:28:38	10451	263	-24648	88	P	t-	-1.3407	0.3646	72S	2W	0		
0007-Aug-01	20:02:42	10447	263	-24643	55	P	-t	-1.4463	0.1905	69S	102W	0		
0007-Aug-31	10:35:41	10446	263	-24642	93	P	t-	1.4028	0.2738	71N	175W	0		
0008-Jan-27	02:17:08	10442	263	-24637	60	A	-p	0.6113	0.9895	18N	172W	52	47	01m09s
0008-Jul-21	05:27:53	10437	262	-24631	65	T	-p	-0.6337	1.0298	18S	139E	51	130	03m03s
0009-Jan-15	08:08:39	10432	262	-24625	70	A	nn	-0.0950	0.9392	27S	105E	84	227	07m30s
0009-Jul-10	20:52:53	10427	262	-24619	75	T	n-	0.1263	1.0750	30N	89W	83	245	06m25s
0010-Jan-04	07:54:13	10422	262	-24613	80	A	p-	-0.7916	0.9138	76S	106E	37	542	07m03s
0010-Jun-30	14:00:52	10418	262	-24607	85	T	p-	0.8647	1.0599	83N	12W	30	397	03m22s
0010-Nov-24	16:30:29	10414	262	-24602	52	P	-t	1.4854	0.1237	63N	15E	0		
0010-Dec-24	08:29:15	10413	262	-24601	90	P	t-	-1.4385	0.2136	66S	70W	0		
0011-May-21	17:46:51	10409	262	-24596	57	A	-t	-0.9837	0.9805	55S	11W	9	408	01m36s
0011-Nov-14	03:28:46	10404	262	-24590	62	T	-p	0.7413	1.0203	27N	174W	42	101	01m48s
0012-May-09	21:45:41	10399	261	-24584	67	A	nn	-0.2317	0.9525	5N	100W	77	178	05m48s
0012-Nov-02	18:48:23	10394	261	-24578	72	Tm	-n	0.0588	1.0488	12S	61W	87	162	04m11s
0013-Apr-28	22:16:00	10389	261	-24572	77	A	p-	0.5295	0.9512	42N	130W	58	208	04m41s
0013-Oct-23	09:50:26	10384	261	-24566	82	T	p-	-0.6306	1.0186	45S	49E	51	81	01m23s
0014-Mar-19	15:38:04	10380	261	-24561	49	P	-t	-1.4387	0.1922	61S	83E	0		
0014-Apr-18	02:41:32	10380	261	-24560	87	P	t-	1.2572	0.5238	61N	74E	0		
0014-Sep-13	04:52:39	10376	261	-24555	54	P	-t	1.4975	0.1108	61N	112W	0		

0014-Oct-12	20:03:51	10375	261	-24554	92	P	t-	-1.3882	0.2945	61S	177E	0				
0015-Mar-09	05:43:54	10371	261	-24549	59	T	-p	-0.6705	1.0537	41S	166E	48	236	03m49s		
0015-Sep-02	05:34:14	10366	260	-24543	64	A	-p	0.8125	0.9272	54N	179E	35	460	06m15s		
0016-Feb-26	22:15:49	10361	260	-24537	69	T	nn	0.0370	1.0576	8S	108W	88	190	04m50s		
0016-Aug-21	06:33:19	10356	260	-24531	74	A	nn	0.0702	0.9598	17N	127E	86	146	04m22s		
0017-Feb-15	12:30:31	10351	260	-24525	79	H	p-	0.7718	1.0053	32N	17E	39	28	00m28s		
0017-Aug-10	14:07:31	10347	260	-24519	84	H	p-	-0.6751	1.0118	23S	5W	47	54	01m08s		
0018-Jan-06	03:12:49	10342	260	-24514	51	P	-t	-1.4166	0.2555	64S	31W	0				
0018-Feb-04	20:20:19	10342	260	-24513	89	Pb	t-	1.5496	0.0203	62N	133W	0				
0018-Jul-01	21:14:23	10338	260	-24508	56	P	-t	1.1571	0.7199	65N	64E	0				
0018-Jul-31	04:23:00	10337	260	-24507	94	P	t-	-1.3634	0.3218	63S	111E	0				
0018-Dec-26	02:19:04	10333	259	-24502	61	A	-p	-0.7514	0.9167	72S	154W	41	482	06m56s		
0019-Jun-21	14:04:01	10328	259	-24496	66	T	-p	0.4375	1.0577	50N	14E	64	212	04m26s		
0019-Dec-15	04:26:07	10323	259	-24490	71	A	nn	-0.0424	0.9589	26S	156E	87	150	04m47s		
0020-Jun-10	02:40:19	10318	259	-24484	76	H	n-	-0.3384	1.0055	3N	178W	70	20	00m38s		
0020-Dec-03	13:49:34	10313	259	-24478	81	H	p-	0.6455	1.0098	18N	16E	50	44	01m01s		
0021-May-30	08:07:37	10309	259	-24472	86	P	t-	-1.1488	0.7100	68S	112E	0				
0021-Oct-24	18:01:36	10305	259	-24467	53	P	-t	-1.3921	0.2700	71S	176W	0				
0021-Nov-23	04:28:28	10304	259	-24466	91	P	t-	1.2798	0.4818	69N	173E	0				
0022-Apr-19	18:22:23	10300	259	-24461	58	A	-t	0.9360	0.9506	72N	109W	20	522	03m35s		
0022-Oct-14	08:12:36	10295	258	-24455	63	H	-p	-0.7555	1.0037	54S	75E	41	19	00m17s		
0023-Apr-09	00:40:50	10290	258	-24449	68	Hm	nn	0.1403	1.0082	14N	149W	82	29	00m51s		
0023-Oct-03	16:30:44	10285	258	-24443	73	A	nn	-0.0557	0.9570	6S	28W	87	157	05m07s		
0024-Mar-28	13:52:01	10281	258	-24437	78	T	p-	-0.6040	1.0531	33S	29E	53	219	04m24s		
0024-Sep-21	17:56:51	10276	258	-24431	83	A	p-	0.6670	0.9250	41N	32W	48	375	08m05s		
0025-Feb-16	21:43:47	10272	258	-24426	50	P	-t	1.2973	0.4488	71N	148W	0				
0025-Mar-18	06:29:23	10271	258	-24425	88	P	t-	-1.2986	0.4450	72S	137W	0				
0025-Aug-12	03:10:31	10267	258	-24420	55	P	-t	-1.5016	0.0931	70S	138E	0				
0025-Sep-10	17:55:20	10266	258	-24419	93	P	t-	1.3568	0.3523	72N	61E	0				
0026-Feb-06	10:26:43	10262	257	-24414	60	A	-p	0.6347	0.9888	23N	62E	50	51	01m12s		
0026-Aug-01	12:55:32	10257	257	-24408	65	T	-p	-0.6939	1.0296	25S	23E	46	139	02m53s		
0027-Jan-26	16:01:59	10252	257	-24402	70	A	nn	-0.0772	0.9395	24S	13W	85	225	07m34s		
0027-Jul-22	04:28:52	10248	257	-24396	75	T	nn	0.0604	1.0741	25N	156E	86	241	06m31s		

0028-Jan-15	15:44:14	10243	257	-24390	80	A	p-	-0.7770	0.9163	73S	1E	39	510	07m01s
0028-Jul-10	21:28:36	10238	257	-24384	85	T	p-	0.7973	1.0582	76N	95W	37	320	03m30s
0028-Dec-05	00:59:04	10234	257	-24379	52	P	-t	1.4831	0.1266	64N	122W	0		
0029-Jan-03	16:39:43	10233	257	-24378	90	P	t-	-1.4278	0.2308	67S	156E	0		
0029-Jun-01	00:33:25	10229	256	-24373	57	P	-t	-1.0682	0.8609	64S	111W	0		
0029-Nov-24	12:15:07	10224	256	-24367	62	T	-p	0.7422	1.0217	25N	51E	42	109	01m59s
0030-May-21	04:10:41	10220	256	-24361	67	A	np	-0.3187	0.9518	2N	164E	71	185	06m09s
0030-Nov-14	03:37:12	10215	256	-24355	72	T	-n	0.0643	1.0473	15S	167E	86	158	04m08s
0031-May-10	04:46:34	10210	256	-24349	77	A	p-	0.4458	0.9549	41N	136E	63	183	04m26s
0031-Nov-03	18:26:29	10205	256	-24343	82	T	p-	-0.6242	1.0143	49S	80W	51	62	01m04s
0032-Mar-29	23:09:42	10201	256	-24338	49	Pe	-t	-1.4875	0.1005	61S	39W	0		
0032-Apr-28	09:41:53	10200	256	-24337	87	P	t-	1.1820	0.6594	62N	40W	0		
0032-Sep-23	12:26:16	10196	256	-24332	54	Pe	-t	1.5347	0.0495	61N	125E	0		
0032-Oct-23	04:12:10	10196	256	-24331	92	P	t-	-1.3775	0.3141	61S	45E	0		
0033-Mar-19	13:39:59	10192	255	-24326	59	T	-p	-0.7167	1.0576	40S	47E	44	267	04m06s
0033-Sep-12	12:47:15	10187	255	-24320	64	A	-p	0.8574	0.9233	53N	73E	31	548	06m36s
0034-Mar-09	06:20:30	10182	255	-24314	69	T	nn	-0.0043	1.0594	6S	131E	90	195	04m56s
0034-Sep-01	13:52:05	10177	255	-24308	74	A	nn	0.1201	0.9593	15N	18E	83	149	04m20s
0035-Feb-26	20:29:41	10172	255	-24302	79	H	p-	0.7399	1.0059	33N	105W	42	30	00m31s
0035-Aug-21	21:43:38	10168	255	-24296	84	H2	p-	-0.6203	1.0130	22S	120W	52	56	01m13s
0036-Jan-17	11:06:35	10164	255	-24291	51	P	-t	-1.4328	0.2284	63S	160W	0		
0036-Feb-16	04:03:25	10163	255	-24290	89	P	t-	1.5242	0.0639	62N	102E	0		
0036-Jul-12	04:46:16	10159	254	-24285	56	P	-t	1.2244	0.5891	64N	59W	0		
0036-Aug-10	12:08:12	10158	254	-24284	94	P	t-	-1.3058	0.4323	62S	15W	0		
0037-Jan-05	10:16:44	10154	254	-24279	61	A	-p	-0.7601	0.9191	70S	98E	40	474	06m40s
0037-Jul-01	21:23:07	10149	254	-24273	66	T	-p	0.5127	1.0529	54N	91W	59	204	03m54s
0037-Dec-25	12:47:18	10145	254	-24267	71	A	nn	-0.0456	0.9626	26S	32E	87	136	04m15s
0038-Jun-21	09:34:01	10140	254	-24261	76	H	nn	-0.2597	1.0016	9N	77E	75	6	00m11s
0038-Dec-14	22:33:26	10135	254	-24255	81	H	p-	0.6429	1.0128	17N	118W	50	57	01m19s
0039-Jun-10	14:34:03	10130	254	-24249	86	P	t-	-1.0657	0.8532	67S	3E	0		
0039-Nov-05	02:46:06	10126	254	-24244	53	P	-t	-1.4005	0.2549	70S	38E	0		
0039-Dec-04	13:22:00	10125	253	-24243	91	P	t-	1.2782	0.4848	68N	27E	0		
0040-Apr-30	01:03:01	10121	253	-24238	58	A+	-t	1.0099	0.9524	70N	70E	0		

0040-Oct-24	16:37:41	10117	253	-24232	63	A	-p	-0.7698	0.9982	59S	54W	39	10	00m08s
0041-Apr-19	07:54:29	10112	253	-24226	68	H	nn	0.2061	1.0139	22N	100E	78	49	01m24s
0041-Oct-14	00:25:44	10107	253	-24220	73	A	nn	-0.0761	0.9519	12S	149W	86	177	05m47s
0042-Apr-08	21:32:13	10102	253	-24214	78	T	p-	-0.5450	1.0588	25S	90W	57	229	05m05s
0042-Oct-03	01:27:12	10098	253	-24208	83	A	p-	0.6370	0.9222	35N	148W	50	377	08m56s
0043-Feb-28	05:54:14	10094	253	-24203	50	P	-t	1.3328	0.3818	71N	75E			0
0043-Mar-29	14:22:09	10093	253	-24202	88	P	t-	-1.2503	0.5379	72S	90E			0
0043-Aug-23	10:28:39	10089	252	-24197	55	Pe	-t	-1.5491	0.0093	71S	15E			0
0043-Sep-22	01:25:01	10088	252	-24196	93	P	t-	1.3182	0.4181	72N	66W			0
0044-Feb-17	18:26:34	10084	252	-24191	60	A	-p	0.6652	0.9881	28N	61W	48	56	01m13s
0044-Aug-11	20:31:46	10079	252	-24185	65	T	-p	-0.7476	1.0290	32S	96W	41	147	02m40s
0045-Feb-05	23:45:15	10075	252	-24179	70	A	nn	-0.0515	0.9402	19S	129W	87	222	07m34s
0045-Aug-01	12:10:16	10070	252	-24173	75	Tm	nn	-0.0010	1.0724	19N	40E	90	235	06m30s
0046-Jan-25	23:26:59	10065	252	-24167	80	A	p-	-0.7562	0.9194	68S	109W	41	469	06m59s
0046-Jul-22	05:00:15	10060	252	-24161	85	T	p-	0.7335	1.0552	68N	158E	43	270	03m34s
0046-Dec-16	09:28:28	10056	251	-24156	52	P	-t	1.4809	0.1292	65N	100E			0
0047-Jan-15	00:45:52	10056	251	-24155	90	P	t-	-1.4128	0.2551	68S	22E			0
0047-Jun-12	07:18:07	10052	251	-24150	57	P	-t	-1.1529	0.7090	65S	137E			0
0047-Jul-11	18:20:32	10051	251	-24149	95	Pb	t-	1.5351	0.0172	67N	123E			0
0047-Dec-05	21:04:21	10047	251	-24144	62	T	-p	0.7412	1.0236	24N	85W	42	119	02m13s
0048-May-31	10:31:52	10042	251	-24138	67	A	-p	-0.4084	0.9506	2S	68E	66	197	06m33s
0048-Nov-24	12:29:56	10037	251	-24132	72	T	-n	0.0665	1.0461	17S	33E	86	154	04m07s
0049-May-20	11:14:10	10033	251	-24126	77	A	p-	0.3590	0.9583	39N	43E	69	162	04m15s
0049-Nov-14	03:06:42	10028	251	-24120	82	H	p-	-0.6214	1.0104	53S	150E	51	46	00m46s
0050-May-09	16:39:31	10023	251	-24114	87	P	t-	1.1030	0.8030	62N	155W			0
0050-Oct-04	20:07:35	10019	250	-24109	54	P	-t	1.5652	0.0001	61N	0E			0
0050-Nov-03	12:25:35	10018	250	-24108	92	P	t-	-1.3714	0.3255	62S	88W			0
0051-Mar-30	21:30:50	10014	250	-24103	59	T	-p	-0.7680	1.0609	40S	71W	40	305	04m21s
0051-Sep-23	20:08:10	10010	250	-24097	64	A	-p	0.8960	0.9197	52N	36W	26	666	06m58s
0052-Mar-19	14:19:05	10005	250	-24091	69	T	nn	-0.0507	1.0609	4S	11E	87	200	05m02s
0052-Sep-11	21:20:24	10000	250	-24085	74	Am	nn	0.1632	0.9588	13N	95W	81	151	04m20s
0053-Mar-09	04:19:07	9995	250	-24079	79	H	p-	0.7008	1.0065	33N	136E	45	31	00m33s
0053-Sep-01	05:29:27	9991	250	-24073	84	H2	p-	-0.5725	1.0138	22S	123E	55	57	01m15s

0054-Jan-27	18:51:42	9987	249	-24068	51	P	-t	-1.4555	0.1901	63S	74E	0			
0054-Feb-26	11:35:21	9986	249	-24067	89	P	t-	1.4904	0.1218	61N	21W	0			
0054-Jul-23	12:24:11	9982	249	-24062	56	P	-t	1.2869	0.4679	63N	176E	0			
0054-Aug-21	20:02:19	9981	249	-24061	94	P	t-	-1.2551	0.5294	62S	143W	0			
0055-Jan-16	18:07:27	9977	249	-24056	61	A	-p	-0.7751	0.9219	68S	12W	39	467	06m22s	
0055-Jul-13	04:46:47	9972	249	-24050	66	T	-p	0.5835	1.0475	57N	164E	54	195	03m23s	
0056-Jan-05	21:05:12	9968	249	-24044	71	Am	nn	-0.0528	0.9669	26S	92W	87	119	03m39s	
0056-Jul-01	16:27:42	9963	249	-24038	76	A	nn	-0.1817	0.9972	13N	27W	80	10	00m20s	
0056-Dec-25	07:16:18	9958	249	-24032	81	T	p-	0.6387	1.0163	16N	109E	50	73	01m40s	
0057-Jun-20	20:59:01	9954	249	-24026	86	As	t-	-0.9810	0.9434	56S	101W	10	-	05m25s	
0057-Nov-15	11:35:06	9950	248	-24021	53	P	-t	-1.4053	0.2465	69S	107W	0			
0057-Dec-14	22:15:20	9949	248	-24020	91	P	t-	1.2767	0.4879	66N	118W	0			
0058-May-11	07:39:01	9945	248	-24015	58	P	-t	1.0881	0.8177	70N	42W	0			
0058-Nov-05	01:08:52	9940	248	-24009	63	A	-p	-0.7786	0.9934	64S	178E	39	37	00m29s	
0059-Apr-30	15:04:18	9935	248	-24003	68	T	-n	0.2761	1.0191	30N	10W	74	68	01m50s	
0059-Oct-25	08:26:33	9931	248	-23997	73	A	nn	-0.0912	0.9472	17S	90E	85	195	06m23s	
0060-Apr-19	05:07:56	9926	248	-23991	78	T	p-	-0.4816	1.0640	17S	152E	61	238	05m45s	
0060-Oct-13	09:05:36	9921	248	-23985	83	A	p-	0.6135	0.9196	29N	94E	52	381	09m47s	
0061-Mar-10	13:56:11	9917	247	-23980	50	P	-t	1.3750	0.3020	72N	60W	0			
0061-Apr-08	22:07:17	9917	247	-23979	88	P	t-	-1.1959	0.6429	71S	41W	0			
0061-Oct-02	09:05:15	9912	247	-23973	93	P	t-	1.2871	0.4711	72N	164E	0			
0062-Feb-28	02:17:14	9908	247	-23968	60	A	-p	0.7027	0.9874	34N	177E	45	62	01m14s	
0062-Aug-23	04:16:51	9903	247	-23962	65	T	-p	-0.7949	1.0280	39S	143E	37	155	02m24s	
0063-Feb-17	07:19:36	9898	247	-23956	70	A	nn	-0.0189	0.9412	14S	116E	89	218	07m30s	
0063-Aug-12	19:59:20	9894	247	-23950	75	T	nn	-0.0562	1.0702	13N	79W	87	229	06m22s	
0064-Feb-06	07:03:39	9889	247	-23944	80	A	p-	-0.7301	0.9230	62S	138E	43	426	06m57s	
0064-Aug-01	12:35:56	9884	247	-23938	85	T	p-	0.6737	1.0515	60N	46E	47	231	03m33s	
0064-Dec-26	17:56:44	9880	246	-23933	52	P	-t	1.4803	0.1286	66N	38W	0			
0065-Jan-25	08:47:13	9880	246	-23932	90	P	t-	-1.3932	0.2877	69S	110W	0			
0065-Jun-22	14:01:56	9876	246	-23927	57	P	-t	-1.2367	0.5595	66S	26E	0			
0065-Jul-22	01:28:52	9875	246	-23926	95	P	t-	1.4731	0.1323	68N	4E	0			
0065-Dec-16	05:52:18	9871	246	-23921	62	T	-p	0.7418	1.0261	24N	140E	42	132	02m28s	
0066-Jun-11	16:52:52	9866	246	-23915	67	A	-p	-0.4977	0.9488	6S	28W	60	216	06m58s	

0066-Dec-05	21:22:56	9862	246	-23909	72	T	-n	0.0682	1.0454	19S	100W	86	152	04m08s
0067-May-31	17:42:07	9857	246	-23903	77	A	pn	0.2715	0.9612	37N	51W	74	146	04m08s
0067-Nov-25	11:47:50	9852	246	-23897	82	H	p-	-0.6201	1.0071	56S	22E	51	31	00m31s
0068-May-19	23:36:06	9847	245	-23891	87	P	t-	1.0220	0.9516	63N	91E	0		
0068-Nov-13	20:42:38	9843	245	-23885	92	P	t-	-1.3689	0.3306	63S	138E	0		
0069-Apr-10	05:13:01	9839	245	-23880	59	T	-p	-0.8267	1.0633	41S	174E	34	361	04m31s
0069-Oct-04	03:39:43	9834	245	-23874	64	A	-p	0.9258	0.9164	52N	150W	22	819	07m21s
0070-Mar-30	22:07:45	9829	245	-23868	69	T	-n	-0.1050	1.0619	2S	107W	84	204	05m08s
0070-Sep-23	04:59:55	9825	245	-23862	74	A	nn	0.1976	0.9584	11N	150E	79	154	04m22s
0071-Mar-20	11:58:35	9820	245	-23856	79	H	p-	0.6542	1.0069	34N	21E	49	31	00m35s
0071-Sep-12	13:25:23	9815	245	-23850	84	H2	p-	-0.5325	1.0142	23S	2E	58	57	01m15s
0072-Feb-08	02:29:50	9811	244	-23845	51	P	-t	-1.4833	0.1429	62S	50W	0		
0072-Mar-08	18:58:11	9810	244	-23844	89	P	t-	1.4498	0.1914	61N	141W	0		
0072-Aug-02	20:05:55	9807	244	-23839	56	P	-t	1.3463	0.3535	63N	50E	0		
0072-Sep-01	04:03:08	9806	244	-23838	94	P	t-	-1.2097	0.6160	61S	87E	0		
0073-Jan-27	01:54:11	9802	244	-23833	61	A	-p	-0.7937	0.9252	65S	124W	37	461	06m03s
0073-Jul-23	12:12:32	9797	244	-23827	66	T	-p	0.6520	1.0413	59N	60E	49	182	02m52s
0074-Jan-16	05:19:26	9792	244	-23821	71	A	nn	-0.0637	0.9718	25S	146E	86	101	03m01s
0074-Jul-12	23:23:42	9788	244	-23815	76	Am	nn	-0.1065	0.9922	17N	131W	84	27	00m52s
0075-Jan-05	15:56:46	9783	244	-23809	81	T	p-	0.6318	1.0204	16N	24W	51	89	02m01s
0075-Jul-02	03:26:32	9778	243	-23803	86	A	p-	-0.8986	0.9446	40S	159E	26	466	06m10s
0075-Nov-26	20:25:12	9774	243	-23798	53	P	-t	-1.4093	0.2397	68S	108E	0		
0075-Dec-26	07:06:34	9774	243	-23797	91	P	t-	1.2735	0.4940	65N	98E	0		
0076-May-21	14:15:33	9770	243	-23792	58	P	-t	1.1663	0.6820	69N	154W	0		
0076-Nov-15	09:42:29	9765	243	-23786	63	A	-p	-0.7847	0.9891	69S	51E	38	62	00m46s
0077-May-10	22:11:21	9760	243	-23780	68	T	-n	0.3492	1.0238	37N	119W	69	86	02m10s
0077-Nov-04	16:32:22	9756	243	-23774	73	A	nn	-0.1014	0.9431	21S	32W	84	211	06m55s
0078-Apr-30	12:39:15	9751	243	-23768	78	T	p-	-0.4137	1.0685	10S	35E	65	245	06m19s
0078-Oct-24	16:51:12	9746	243	-23762	83	A	p-	0.5958	0.9175	24N	26W	53	386	10m35s
0079-Mar-21	21:48:54	9742	242	-23757	50	P	-t	1.4244	0.2087	72N	167E	0		
0079-Apr-20	05:46:23	9742	242	-23756	88	P	t-	-1.1366	0.7575	71S	170W	0		
0079-Oct-13	16:55:20	9737	242	-23750	93	P	t-	1.2630	0.5121	72N	31E	0		
0080-Mar-10	09:57:11	9733	242	-23745	60	A	-p	0.7481	0.9864	41N	57E	41	72	01m15s



0080-Sep-02	12:10:51	9728	242	-23739	65	T	-p	-0.8354	1.0267	45S	18E	33	164	02m08s
0081-Feb-27	14:43:18	9724	242	-23733	70	A	nn	0.0219	0.9424	8S	3E	89	213	07m23s
0081-Aug-23	03:55:45	9719	242	-23727	75	T	nn	-0.1051	1.0675	7N	160E	84	221	06m08s
0082-Feb-16	14:30:09	9714	242	-23721	80	A	p-	-0.6955	0.9272	55S	25E	46	380	06m55s
0082-Aug-12	20:17:59	9710	241	-23715	85	T	p-	0.6197	1.0470	53N	71W	51	199	03m27s
0083-Jan-07	02:22:46	9706	241	-23710	52	P	-t	1.4819	0.1240	67N	176W	0		
0083-Feb-05	16:42:33	9705	241	-23709	90	P	t-	-1.3682	0.3298	70S	118E	0		
0083-Jul-03	20:46:13	9701	241	-23704	57	P	-t	-1.3189	0.4142	67S	87W	0		
0083-Aug-02	08:40:59	9700	241	-23703	95	P	t-	1.4146	0.2397	69N	116W	0		
0083-Dec-27	14:39:42	9696	241	-23698	62	T	-p	0.7434	1.0290	25N	5E	42	147	02m44s
0084-Jun-21	23:13:50	9692	241	-23692	67	A	-p	-0.5865	0.9466	12S	125W	54	242	07m19s
0084-Dec-16	06:16:23	9687	241	-23686	72	T	-n	0.0697	1.0451	20S	127E	86	151	04m10s
0085-Jun-11	00:09:45	9682	241	-23680	77	A	nn	0.1829	0.9636	34N	146W	79	134	04m04s
0085-Dec-05	20:30:42	9678	241	-23674	82	H	p-	-0.6208	1.0042	60S	105W	51	19	00m19s
0086-May-31	06:33:32	9673	240	-23668	87	H	t-	0.9403	1.0022	75N	24E	19	23	00m08s
0086-Nov-25	05:01:04	9668	240	-23662	92	P	t-	-1.3681	0.3324	63S	4E	0		
0087-Apr-21	12:51:51	9664	240	-23657	59	T	-p	-0.8886	1.0647	44S	60E	27	453	04m34s
0087-Oct-15	11:19:12	9660	240	-23651	64	A	-p	0.9491	0.9136	52N	94E	18	1027	07m44s
0088-Apr-10	05:50:28	9655	240	-23645	69	T	-n	-0.1641	1.0625	1S	137E	81	207	05m15s
0088-Oct-03	12:48:33	9650	240	-23639	74	A	nn	0.2254	0.9582	8N	32E	77	155	04m25s
0089-Mar-30	19:29:05	9646	240	-23633	79	H	p-	0.6009	1.0071	35N	92W	53	30	00m36s
0089-Sep-22	21:31:04	9641	239	-23627	84	H2	p-	-0.4995	1.0146	25S	120W	60	57	01m15s
0090-Feb-18	09:56:25	9637	239	-23622	51	P	-t	-1.5201	0.0806	61S	171W	0		
0090-Mar-20	02:09:05	9636	239	-23621	89	P	t-	1.4000	0.2771	61N	102E	0		
0090-Aug-14	03:55:55	9632	239	-23616	56	P	-t	1.3991	0.2523	62N	77W	0		
0090-Sep-12	12:13:48	9632	239	-23615	94	P	t-	-1.1720	0.6877	61S	45W	0		
0091-Feb-07	09:32:26	9628	239	-23610	61	A	-p	-0.8200	0.9288	62S	125E	35	463	05m42s
0091-Aug-03	19:43:49	9623	239	-23604	66	T	-p	0.7153	1.0347	59N	45W	44	167	02m21s
0092-Jan-27	13:27:50	9618	239	-23598	71	A	nn	-0.0806	0.9772	23S	24E	85	82	02m22s
0092-Jul-23	06:22:55	9614	239	-23592	76	A	nn	-0.0346	0.9869	19N	124E	88	46	01m26s
0093-Jan-16	00:32:16	9609	239	-23586	81	T	p-	0.6204	1.0250	16N	155W	52	107	02m25s
0093-Jul-12	09:56:00	9604	238	-23580	86	A	p-	-0.8176	0.9437	31S	59E	35	358	06m41s
0093-Dec-07	05:17:19	9601	238	-23575	53	P	-t	-1.4118	0.2354	67S	37W	0		

0094-Jan-05	15:54:48	9600	238	-23574	91	P	t-	1.2680	0.5044	64N	44W	0	
0094-Jun-01	20:51:16	9596	238	-23569	58	P	-t	1.2457	0.5430	68N	95E	0	
0094-Jul-01	10:27:22	9595	238	-23568	96	Pb	t-	-1.5568	0.0069	65S	43E	0	
0094-Nov-26	18:18:25	9591	238	-23563	63	A	-p	-0.7884	0.9855	73S	71W	38	84 01m01s
0095-May-22	05:17:38	9587	238	-23557	68	T	-p	0.4241	1.0277	45N	134E	65	104 02m22s
0095-Nov-16	00:42:47	9582	238	-23551	73	A	nn	-0.1074	0.9396	25S	155W	84	225 07m23s
0096-May-10	20:06:45	9577	238	-23545	78	T	n-	-0.3422	1.0723	2S	80W	70	250 06m47s
0096-Nov-04	00:43:44	9573	238	-23539	83	A	p-	0.5837	0.9159	20N	147W	54	392 11m18s
0097-Apr-01	05:33:39	9569	237	-23534	50	Pe	-t	1.4799	0.1038	72N	36E	0	
0097-Apr-30	13:19:33	9568	<u>237</u>	-23533	88	P	t-	-1.0725	0.8816	70S	63E	0	
0097-Oct-24	00:53:57	9563	237	-23527	93	P	t-	1.2451	0.5426	71N	103W	0	
0098-Mar-21	17:27:17	9559	237	-23522	60	A	-p	0.8007	0.9850	50N	62W	36	88 01m16s
0098-Sep-13	20:14:20	9555	237	-23516	65	T	-p	-0.8687	1.0253	52S	110W	29	173 01m53s
0099-Mar-10	21:58:20	9550	237	-23510	70	A	nn	0.0691	0.9437	1S	108W	86	208 07m12s
0099-Sep-03	11:59:01	9545	237	-23504	75	T	-n	-0.1482	1.0645	0N	37E	81	213 05m50s
0100-Feb-27	21:49:52	9541	237	-23498	80	A	p-	-0.6549	0.9316	48S	88W	49	336 06m52s
0100-Aug-23	04:05:58	9536	236	-23492	85	T	p-	0.5715	1.0421	46N	171E	55	171 03m17s

## 2ND CENTURY CE

In the 2nd century CE the total number of solar eclipses was 237 solar eclipses: 80 partial solar eclipses, 77 annular solar eclipses (70 central annular solar eclipses with two limits, 5 central annular solar eclipses with one limit, 2 non-central annular solar eclipses with one limit), 64 total solar eclipses (63 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 16 hybrid solar eclipses.

DATE	OF	s	SIGMA	NUM	NUM	TYPE		MAG	°	°	ALT	WIDTH	DUR.
	GREATEST		S								°	km	
	ECLIPSE												
0101-Jan-17	10:43:52	9532	236	-23487	52	P	-t	1.4884	0.1103	68N 47E	0		
0101-Feb-16	00:30:15	9532	236	-23486	90	P	t-	-1.3359	0.3851	71S 13W	0		
0101-Jul-14	03:32:44	9528	236	-23481	57	P	-t	-1.3981	0.2755	68S 160E	0		
0101-Aug-12	15:58:39	9527	236	-23480	95	P	t-	1.3611	0.3370	70N 121E	0		
0102-Jan-06	23:22:57	9523	236	-23475	62	T	-p	0.7489	1.0323	26N 129W	41 165	03m00s	
0102-Jul-03	05:38:37	9518	236	-23469	67	A	-p	-0.6719	0.9439	19S 136E	48 280	07m33s	
0102-Dec-27	15:06:02	9514	236	-23463	72	T	-n	0.0742	1.0454	19S 5W	86 152	04m15s	
0103-Jun-22	06:41:55	9509	236	-23457	77	A	nn	0.0973	0.9654	29N 118E	84 125	04m02s	
0103-Dec-17	05:12:00	9504	236	-23451	82	H	p-	-0.6210	1.0019	62S 131E	51 9	00m09s	
0104-Jun-10	13:31:30	9500	235	-23445	87	H2	t-	0.8577	1.0087	78N 35W	31 59	00m33s	
0104-Dec-05	13:20:37	9495	235	-23439	92	P	t-	-1.3689	0.3315	64S 131W	0		
0105-May-01	20:24:27	9491	235	-23434	59	T	-t	-0.9557	1.0643	51S 50W	17 715	04m21s	
0105-Oct-25	19:07:40	9487	235	-23428	64	A	-p	0.9656	0.9114	53N 26W	14 1296	08m04s	
0106-Apr-21	13:24:47	9482	235	-23422	69	T	-n	-0.2299	1.0623	1S 24E	77 209	05m22s	
0106-Oct-14	20:47:55	9477	235	-23416	74	A	nn	0.2453	0.9583	5N 89W	76 156	04m28s	
0107-Apr-11	02:50:58	9473	235	-23410	79	H	p-	0.5411	1.0069	36N 159E	57 28	00m35s	
0107-Oct-04	05:45:13	9468	235	-23404	84	H2	p-	-0.4729	1.0149	28S 116E	62 57	01m15s	
0108-Feb-29	17:15:24	9464	234	-23399	51	Pe	-t	-1.5623	0.0084	61S 69E	0		
0108-Mar-30	09:11:54	9463	234	-23398	89	P	t-	1.3439	0.3735	61N 13W	0		
0108-Aug-24	11:51:55	9459	234	-23393	56	P	-t	1.4472	0.1611	62N 154E	0		
0108-Sep-22	20:32:07	9459	234	-23392	94	P	t-	-1.1404	0.7473	61S 179W	0		
0109-Feb-17	17:03:43	9455	234	-23387	61	A	-p	-0.8521	0.9325	60S 15E	31 475	05m21s	
0109-Aug-14	03:19:55	9450	234	-23381	66	T	-p	0.7737	1.0276	58N 153W	39 147	01m51s	
0110-Feb-06	21:30:46	9446	234	-23375	71	A	nn	-0.1027	0.9830	21S 96W	84 61	01m43s	
0110-Aug-03	13:27:15	9441	234	-23369	76	A	nn	0.0321	0.9812	20N 19E	88 67	02m00s	
0111-Jan-27	09:02:46	9436	234	-23363	81	T	p-	0.6042	1.0299	16N 75E	53 126	02m47s	
0111-Jul-23	16:31:39	9432	233	-23357	86	A	p-	-0.7416	0.9421	25S 42W	42 314	07m03s	
0111-Dec-18	14:08:08	9428	233	-23352	53	P	-t	-1.4156	0.2288	66S 179E	0		
0112-Jan-17	00:38:35	9427	233	-23351	91	P	t-	1.2590	0.5215	64N 174E	0		

0112-Jun-12	03:28:48	9423	233	-23346	58	P	-t	1.3242	0.4050	67N	16W	0		
0112-Jul-11	17:00:11	9422	233	-23345	96	P	t-	-1.4752	0.1473	64S	66W	0		
0112-Dec-07	02:54:18	9418	233	-23340	63	A	-p	-0.7918	0.9825	75S	172E	37	103	01m13s
0113-Jun-01	12:24:14	9414	233	-23334	68	T	-p	0.4999	1.0310	52N	29E	60	121	02m29s
0113-Nov-26	08:54:11	9409	233	-23328	73	A	nn	-0.1121	0.9369	28S	83E	83	236	07m44s
0114-May-22	03:32:27	9405	233	-23322	78	T	n-	-0.2685	1.0753	5N	166E	74	253	07m06s
0114-Nov-15	08:40:47	9400	233	-23316	83	A	p-	0.5747	0.9149	16N	92E	55	395	11m52s
0115-May-11	20:48:38	9395	232	-23310	88	T-	t-	-1.0052	1.0115	70S	62W	0		
0115-Nov-04	08:59:08	9391	232	-23304	93	P	t-	1.2316	0.5656	70N	122E	0		
0116-Apr-01	00:47:34	9387	232	-23299	60	A	-t	0.8605	0.9830	59N	178E	30	118	01m19s
0116-Sep-24	04:27:16	9382	232	-23293	65	T	-p	-0.8949	1.0239	59S	118E	26	182	01m39s
0117-Mar-21	05:00:58	9378	232	-23287	70	A	nn	0.1262	0.9449	7N	144E	83	204	06m59s
0117-Sep-13	20:11:17	9373	232	-23281	75	T	-n	-0.1838	1.0612	6S	88W	79	204	05m29s
0118-Mar-10	04:59:37	9368	232	-23275	80	A	p-	-0.6056	0.9363	40S	161E	52	295	06m47s
0118-Sep-03	12:01:31	9364	232	-23269	85	T	p-	0.5299	1.0368	39N	50E	58	145	03m02s
0119-Jan-28	18:59:56	9360	231	-23264	52	P	-t	1.4997	0.0879	69N	90W	0		
0119-Feb-27	08:11:06	9359	231	-23263	90	P	t-	-1.2971	0.4526	71S	142W	0		
0119-Jul-25	10:23:17	9355	231	-23258	57	P	-t	-1.4728	0.1461	69S	45E	0		
0119-Aug-23	23:22:48	9354	231	-23257	95	P	t-	1.3134	0.4230	71N	3W	0		
0120-Jan-18	08:03:18	9351	231	-23252	62	T	-p	0.7573	1.0359	28N	97E	41	185	03m16s
0120-Jul-13	12:05:21	9346	231	-23246	67	A	-p	-0.7553	0.9407	27S	36E	41	335	07m36s
0121-Jan-06	23:53:53	9341	231	-23240	72	T	-n	0.0801	1.0460	18S	137W	86	154	04m20s
0121-Jul-02	13:17:21	9337	231	-23234	77	A	nn	0.0137	0.9668	24N	19E	89	120	04m02s
0121-Dec-27	13:50:39	9332	231	-23228	82	H	p-	-0.6197	1.0002	62S	8E	51	1	00m01s
0122-Jun-21	20:33:32	9327	231	-23222	87	T	p-	0.7775	1.0136	74N	109W	39	75	00m55s
0122-Dec-16	21:38:42	9323	230	-23216	92	P	t-	-1.3694	0.3308	65S	94E	0		
0123-May-13	03:55:27	9319	230	-23211	59	P	-t	-1.0246	0.9775	62S	150W	0		
0123-Jun-11	10:39:56	9318	230	-23210	97	Pb	t-	1.4767	0.1026	65N	96W	0		
0123-Nov-06	03:01:03	9314	230	-23205	64	An	-p	0.9781	0.9098	54N	148W	11	-	08m20s
0124-May-01	20:54:53	9310	230	-23199	69	T	-n	-0.2988	1.0615	1S	89W	73	211	05m26s
0124-Oct-25	04:54:50	9305	230	-23193	74	A	-n	0.2597	0.9588	2N	148E	75	154	04m31s
0125-Apr-21	10:03:46	9300	230	-23187	79	H	p-	0.4746	1.0063	36N	52E	61	24	00m32s
0125-Oct-14	14:08:40	9296	230	-23181	84	H2	p-	-0.4533	1.0153	31S	11W	63	58	01m16s

0126-Apr-10	16:04:26	9291	229	-23175	89	P	t-	1.2801	0.4835	61N	126W	0		
0126-Sep-04	19:56:37	9287	229	-23170	56	P	-t	1.4881	0.0841	61N	24E	0		
0126-Oct-04	04:58:49	9287	229	-23169	94	P	t-	-1.1157	0.7935	61S	45E	0		
0127-Mar-01	00:25:37	9283	229	-23164	61	A	-p	-0.8924	0.9362	58S	92W	26	518	05m00s
0127-Aug-25	11:03:34	9278	229	-23158	66	T	-p	0.8251	1.0203	57N	96E	34	121	01m22s
0128-Feb-18	05:26:21	9273	229	-23152	71	A	nn	-0.1320	0.9891	19S	145E	82	39	01m04s
0128-Aug-13	20:36:11	9269	229	-23146	76	A	nn	0.0942	0.9752	20N	87W	84	89	02m35s
0129-Feb-06	17:26:43	9264	229	-23140	81	T	p-	0.5821	1.0354	17N	53W	54	144	03m10s
0129-Aug-02	23:12:20	9260	229	-23134	86	A	p-	-0.6695	0.9398	21S	144W	48	295	07m20s
0129-Dec-28	22:56:25	9256	228	-23129	53	P	-t	-1.4214	0.2182	65S	36E	0		
0130-Jan-27	09:15:41	9255	228	-23128	91	P	t-	1.2448	0.5486	63N	35E	0		
0130-Jun-23	10:09:15	9251	228	-23123	58	P	-t	1.4008	0.2695	66N	127W	0		
0130-Jul-22	23:39:58	9250	228	-23122	96	P	t-	-1.3978	0.2807	63S	176W	0		
0130-Dec-18	11:29:39	9247	228	-23117	63	A	-p	-0.7952	0.9800	76S	59E	37	118	01m22s
0131-Jun-12	19:31:55	9242	228	-23111	68	T	-p	0.5755	1.0335	59N	75W	55	139	02m31s
0131-Dec-07	17:06:32	9237	228	-23105	73	A	nn	-0.1154	0.9347	30S	39W	83	245	07m59s
0132-Jun-01	10:56:59	9233	228	-23099	78	T	n-	-0.1933	1.0775	11N	53E	79	255	07m14s
0132-Nov-25	16:41:45	9228	228	-23093	83	A	p-	0.5692	0.9144	14N	31W	55	396	12m16s
0133-May-22	04:13:18	9223	228	-23087	88	T	t-	-0.9346	1.0601	49S	164E	20	562	04m32s
0133-Nov-14	17:10:54	9219	227	-23081	93	P	t-	1.2228	0.5808	69N	14W	0		
0134-Apr-12	07:59:29	9215	227	-23076	60	A	-t	0.9261	0.9801	69N	51E	22	190	01m24s
0134-Oct-05	12:48:06	9210	227	-23070	65	T	-p	-0.9152	1.0226	65S	16W	23	193	01m29s
0135-Apr-01	11:56:20	9206	227	-23064	70	A	nn	0.1887	0.9460	14N	37E	79	202	06m43s
0135-Sep-25	04:31:06	9201	227	-23058	75	T	-n	-0.2132	1.0578	12S	145E	78	195	05m08s
0136-Mar-20	12:02:17	9197	227	-23052	80	A	p-	-0.5500	0.9411	32S	51E	56	259	06m38s
0136-Sep-13	20:03:37	9192	227	-23046	85	T	p-	0.4945	1.0313	32N	73W	60	121	02m43s
0137-Feb-08	03:09:39	9188	227	-23041	52	P	-t	1.5166	0.0548	70N	135E	0		
0137-Mar-09	15:44:32	9187	227	-23040	90	P	t-	-1.2512	0.5334	72S	90E	0		
0137-Aug-04	17:19:10	9183	226	-23035	57	Pe	-t	-1.5417	0.0283	69S	71W	0		
0137-Sep-03	06:54:14	9183	226	-23034	95	P	t-	1.2723	0.4960	71N	130W	0		
0138-Jan-28	16:36:04	9179	226	-23029	62	T	-p	0.7721	1.0396	32N	35W	39	209	03m28s
0138-Jul-24	18:39:41	9174	226	-23023	67	A	-p	-0.8318	0.9370	36S	68W	33	422	07m29s
0139-Jan-18	08:35:33	9170	226	-23017	72	T	-n	0.0905	1.0469	16S	92E	85	157	04m27s

0139-Jul-13	19:59:05	9165	226	-23011	77	A	nn	-0.0654	0.9678	19N	81W	86	116	04m02s
0140-Jan-07	22:24:28	9160	226	-23005	82	A	p-	-0.6152	0.9989	61S	113W	52	5	00m05s
0140-Jul-02	03:39:26	9156	226	-22999	87	T	p-	0.6995	1.0175	68N	159E	45	84	01m15s
0140-Dec-27	05:53:39	9151	226	-22993	92	P	t-	-1.3679	0.3337	66S	41W	0		
0141-May-23	11:21:59	9147	225	-22988	59	P	-t	-1.0972	0.8369	63S	89E	0		
0141-Jun-21	18:02:38	9147	225	-22987	97	P	t-	1.4016	0.2468	66N	142E	0		
0141-Nov-16	11:01:22	9143	225	-22982	64	An	-p	0.9853	0.9090	56N	87E	9	-	08m31s
0142-May-13	04:19:10	9138	225	-22976	69	T	-p	-0.3721	1.0598	3S	159E	68	211	05m28s
0142-Nov-05	13:09:19	9134	225	-22970	74	A	-n	0.2686	0.9598	1S	24E	74	151	04m31s
0143-May-02	17:10:12	9129	225	-22964	79	H	p-	0.4036	1.0051	36N	53W	66	19	00m27s
0143-Oct-25	22:39:53	9124	225	-22958	84	H2	p-	-0.4398	1.0158	35S	139W	64	60	01m18s
0144-Apr-20	22:48:51	9120	225	-22952	89	P	t-	1.2099	0.6045	61N	124E	0		
0144-Sep-15	04:07:53	9116	225	-22947	56	Pe	-t	1.5238	0.0179	61N	109W	0		
0144-Oct-14	13:32:44	9115	224	-22946	94	P	t-	-1.0970	0.8285	61S	93W	0		
0145-Mar-11	07:40:51	9111	224	-22941	61	A	-p	-0.9386	0.9395	58S	164E	20	642	04m38s
0145-Sep-04	18:53:30	9107	224	-22935	66	T	-p	0.8708	1.0128	56N	19W	29	88	00m52s
0146-Feb-28	13:15:03	9102	224	-22929	71	A	nn	-0.1680	0.9953	17S	28E	80	17	00m27s
0146-Aug-25	03:52:22	9097	224	-22923	76	A	nn	0.1496	0.9692	19N	164E	81	112	03m11s
0147-Feb-18	01:44:44	9093	224	-22917	81	T	p-	0.5542	1.0409	18N	179W	56	162	03m32s
0147-Aug-14	05:59:52	9088	224	-22911	86	A	p-	-0.6029	0.9372	19S	114E	53	286	07m31s
0148-Jan-09	07:40:31	9084	224	-22906	53	P	-t	-1.4307	0.2010	64S	106W	0		
0148-Feb-07	17:46:39	9084	224	-22905	91	P	t-	1.2256	0.5852	62N	102W	0		
0148-Jul-03	16:54:51	9080	224	-22900	58	P	-t	1.4740	0.1396	65N	121E	0		
0148-Aug-02	06:27:26	9079	223	-22899	96	P	t-	-1.3253	0.4056	63S	72E	0		
0148-Dec-28	20:00:35	9075	223	-22894	63	A	-p	-0.8015	0.9780	75S	53W	36	132	01m30s
0149-Jun-23	02:42:36	9071	223	-22888	68	T	-p	0.6494	1.0352	64N	176W	49	156	02m29s
0149-Dec-18	01:16:35	9066	223	-22882	73	A	nn	-0.1202	0.9332	31S	161W	83	251	08m07s
0150-Jun-12	18:22:46	9061	223	-22876	78	T	nn	-0.1188	1.0787	17N	59W	83	256	07m13s
0150-Dec-07	00:42:43	9057	223	-22870	83	A	p-	0.5632	0.9147	12N	154W	56	393	12m23s
0151-Jun-02	11:36:42	9052	223	-22864	88	T	p-	-0.8631	1.0613	38S	46E	30	400	05m06s
0151-Nov-26	01:26:47	9048	223	-22858	93	P	t-	1.2162	0.5922	68N	151W	0		
0152-Apr-22	15:01:41	9044	222	-22853	60	A+	-t	0.9988	0.9834	71N	136W	0		
0152-Oct-15	21:17:53	9039	222	-22847	65	T	-p	-0.9290	1.0217	70S	155W	21	202	01m20s

0153-Apr-11	18:41:03	9035	222	-22841	70	A	np	0.2598	0.9470	23N	67W	75	202	06m24s
0153-Oct-05	12:59:31	9030	222	-22835	75	T	-n	-0.2354	1.0545	18S	16E	76	185	04m47s
0154-Mar-31	18:55:49	9025	222	-22829	80	A	p-	-0.4861	0.9460	24S	56W	61	226	06m25s
0154-Sep-25	04:14:04	9021	222	-22823	85	T	n-	0.4665	1.0258	26N	161E	62	99	02m20s
0155-Feb-19	11:13:38	9017	222	-22818	52	Pe	-t	1.5388	0.0117	71N	0W	0		
0155-Mar-20	23:11:58	9016	222	-22817	90	P	t-	-1.1994	0.6258	72S	37W	0		
0155-Sep-14	14:31:53	9012	222	-22811	95	P	t-	1.2369	0.5583	72N	101E	0		
0156-Feb-09	01:04:23	9008	221	-22806	62	T	-p	0.7913	1.0435	36N	167W	37	237	03m38s
0156-Aug-04	01:19:09	9003	221	-22800	67	A	-p	-0.9039	0.9328	46S	174W	25	588	07m11s
0157-Jan-28	17:11:36	8999	221	-22794	72	T	-n	0.1058	1.0482	12S	37W	84	161	04m34s
0157-Jul-24	02:47:20	8994	221	-22788	77	Am	nn	-0.1400	0.9683	13N	176E	82	115	04m01s
0158-Jan-18	06:52:59	8989	221	-22782	82	A	p-	-0.6070	0.9981	58S	125E	52	8	00m09s
0158-Jul-13	10:51:51	8985	221	-22776	87	T	p-	0.6256	1.0206	61N	58E	51	90	01m33s
0159-Jan-07	14:03:03	8980	221	-22770	92	P	t-	-1.3624	0.3430	67S	175W	0		
0159-Jun-03	18:49:23	8976	221	-22765	59	P	-t	-1.1693	0.6967	64S	34W	0		
0159-Jul-03	01:29:59	8976	221	-22764	97	P	t-	1.3296	0.3854	67N	19E	0		
0159-Nov-27	19:04:05	8972	220	-22759	64	An	-p	0.9907	0.9088	58N	39W	7	-	08m34s
0160-May-23	11:39:46	8967	220	-22753	69	T	-p	-0.4479	1.0573	5S	49E	63	210	05m25s
0160-Nov-15	21:29:05	8962	220	-22747	74	A	-n	0.2740	0.9614	4S	102W	74	145	04m27s
0161-May-13	00:09:56	8958	220	-22741	79	H	n-	0.3281	1.0034	36N	155W	71	12	00m18s
0161-Nov-05	07:16:59	8953	220	-22735	84	T	p-	-0.4305	1.0168	39S	92E	64	63	01m22s
0162-May-02	05:25:43	8949	220	-22729	89	P	t-	1.1339	0.7356	62N	15E	0		
0162-Oct-25	22:13:36	8944	220	-22723	94	P	t-	-1.0841	0.8522	61S	127E	0		
0163-Mar-22	14:47:55	8940	220	-22718	61	As	-t	-0.9920	0.9410	60S	75E	6	-	04m11s
0163-Sep-16	02:50:20	8936	219	-22712	66	H	-t	0.9100	1.0053	55N	136W	24	43	00m22s
0164-Mar-10	20:56:27	8931	219	-22706	71	H	nn	-0.2111	1.0016	15S	88W	78	6	00m09s
0164-Sep-04	11:15:21	8926	219	-22700	76	A	nn	0.1985	0.9632	18N	54E	78	136	03m48s
0165-Feb-28	09:53:49	8922	219	-22694	81	T	p-	0.5185	1.0467	19N	57E	59	179	03m54s
0165-Aug-24	12:55:40	8917	219	-22688	86	A	p-	-0.5430	0.9343	18S	9E	57	286	07m42s
0166-Jan-19	16:19:18	8913	219	-22683	53	P	-t	-1.4441	0.1759	63S	114E	0		
0166-Feb-18	02:09:34	8913	219	-22682	91	P	t-	1.2002	0.6338	62N	122E	0		
0166-Jul-14	23:46:26	8909	219	-22677	58	Pe	-t	1.5427	0.0173	64N	7E	0		
0166-Aug-13	13:23:54	8908	219	-22676	96	P	t-	-1.2591	0.5197	62S	42W	0		

0167-Jan-09	04:27:06	8904	219	-22671	63	A	-p	-0.8109	0.9765	72S	168W	35	144	01m37s
0167-Jul-04	09:57:35	8900	218	-22665	68	T	-p	0.7206	1.0361	68N	87E	44	176	02m24s
0167-Dec-29	09:24:43	8895	218	-22659	73	A	nn	-0.1261	0.9324	31S	79E	83	255	08m08s
0168-Jun-23	01:48:35	8890	218	-22653	78	T	nn	-0.0442	1.0792	21N	171W	88	256	07m03s
0168-Dec-17	08:44:59	8886	218	-22647	83	A	p-	0.5580	0.9156	10N	84E	56	387	12m14s
0169-Jun-12	18:58:37	8881	218	-22641	88	T	p-	-0.7905	1.0610	29S	70W	38	328	05m25s
0169-Dec-06	09:44:50	8877	218	-22635	93	P	t-	1.2106	0.6019	67N	73E	0		
0170-May-03	21:57:51	8873	218	-22630	60	P	-t	1.0751	0.8469	70N	106E	0		
0170-Oct-27	05:54:14	8868	218	-22624	65	T	-p	-0.9381	1.0212	74S	64E	20	213	01m15s
0171-Apr-23	01:20:15	8864	217	-22618	70	A	-p	0.3348	0.9476	31N	170W	70	204	06m04s
0171-Oct-16	21:33:27	8859	217	-22612	75	T	-n	-0.2528	1.0514	23S	114W	75	176	04m27s
0172-Apr-11	01:44:10	8854	217	-22606	80	A	p-	-0.4173	0.9507	16S	162W	65	198	06m07s
0172-Oct-05	12:31:08	8850	217	-22600	85	T	n-	0.4450	1.0204	21N	35E	63	77	01m56s
0173-Mar-31	06:31:27	8845	217	-22594	90	P	t-	-1.1401	0.7328	72S	161W	0		
0173-Sep-24	22:17:54	8841	217	-22588	95	P	t-	1.2090	0.6066	72N	31W	0		
0174-Feb-19	09:23:41	8837	217	-22583	62	T	-p	0.8181	1.0472	41N	63E	35	272	03m43s
0174-Aug-15	08:08:04	8832	217	-22577	67	A	-t	-0.9680	0.9278	59S	71E	14	1113	06m42s
0175-Feb-09	01:39:10	8828	216	-22571	72	T	-n	0.1276	1.0495	8S	165W	83	166	04m41s
0175-Aug-04	09:44:43	8823	216	-22565	77	A	nn	-0.2077	0.9684	6N	69E	78	116	03m59s
0176-Jan-29	15:13:34	8818	216	-22559	82	A	p-	-0.5931	0.9978	54S	2E	53	10	00m11s
0176-Jul-23	18:09:23	8814	216	-22553	87	T	p-	0.5551	1.0228	54N	49W	56	94	01m48s
0177-Jan-17	22:06:27	8809	216	-22547	92	P	t-	-1.3530	0.3590	68S	52E	0		
0177-Jun-14	02:15:10	8805	216	-22542	59	P	-t	-1.2422	0.5546	65S	156W	0		
0177-Jul-13	09:00:30	8805	216	-22541	97	P	t-	1.2601	0.5194	68N	105W	0		
0177-Dec-08	03:09:06	8801	216	-22536	64	An	-p	0.9943	0.9093	60N	168W	4	-	08m28s
0178-Jun-03	18:57:18	8796	216	-22530	69	T	-p	-0.5254	1.0540	9S	62W	58	209	05m14s
0178-Nov-27	05:53:39	8792	215	-22524	74	A	-n	0.2757	0.9635	6S	131E	74	137	04m18s
0179-May-24	07:04:52	8787	215	-22518	79	H	nn	0.2495	1.0011	34N	103E	75	4	00m06s
0179-Nov-16	15:59:03	8782	215	-22512	84	T	p-	-0.4249	1.0180	42S	38W	65	68	01m27s
0180-May-12	11:57:13	8778	215	-22506	89	P	t-	1.0537	0.8736	62N	93W	0		
0180-Nov-05	06:59:52	8773	215	-22500	94	P	t-	-1.0756	0.8676	62S	14W	0		
0181-Apr-01	21:47:39	8769	215	-22495	61	P	-t	-1.0518	0.8782	61S	27W	0		
0181-Sep-26	10:54:24	8765	215	-22489	66	A	-t	0.9425	0.9978	55N	104E	19	23	00m09s



0182-Mar-22	04:31:45	8760	215	-22483	71	H	-n	-0.2601	1.0078	13S	158E	75	28	00m44s
0182-Sep-15	18:45:25	8756	214	-22477	76	A	-n	0.2408	0.9574	16N	59W	76	159	04m27s
0183-Mar-11	17:56:51	8751	214	-22471	81	T	p-	0.4772	1.0523	21N	64W	61	195	04m14s
0183-Sep-04	20:00:14	8747	214	-22465	86	A	p-	-0.4904	0.9315	18S	98W	61	289	07m51s
0184-Jan-31	00:51:07	8743	214	-22460	53	P	-t	-1.4630	0.1405	62S	24W	0		
0184-Feb-29	10:24:28	8742	214	-22459	91	P	t-	1.1686	0.6945	61N	11W	0		
0184-Aug-23	20:29:27	8737	214	-22453	96	P	t-	-1.1991	0.6228	61S	158W	0		
0185-Jan-19	12:46:38	8733	214	-22448	63	A	-p	-0.8255	0.9752	69S	74E	34	157	01m42s
0185-Jul-14	17:18:23	8729	214	-22442	68	T	-p	0.7878	1.0362	70N	8W	38	198	02m17s
0186-Jan-08	17:25:49	8724	214	-22436	73	A	nn	-0.1374	0.9321	30S	40W	82	256	08m01s
0186-Jul-04	09:18:37	8720	213	-22430	78	Tm	nn	0.0273	1.0787	25N	77E	88	254	06m47s
0186-Dec-28	16:44:14	8715	213	-22424	83	A	p-	0.5497	0.9173	10N	38W	57	375	11m49s
0187-Jun-24	02:20:39	8710	213	-22418	88	T	p-	-0.7184	1.0595	22S	176E	44	281	05m31s
0187-Dec-17	18:03:36	8706	213	-22412	93	P	t-	1.2048	0.6123	66N	63W	0		
0188-May-14	04:46:53	8702	213	-22407	60	P	-t	1.1563	0.7021	69N	9W	0		
0188-Jun-12	15:45:22	8701	213	-22406	98	Pb	t-	-1.5291	0.0271	67S	24W	0		
0188-Nov-06	14:37:15	8697	213	-22401	65	T	-p	-0.9422	1.0213	78S	81W	19	222	01m13s
0189-May-03	07:50:18	8693	213	-22395	70	A	-p	0.4169	0.9478	40N	91E	65	211	05m43s
0189-Oct-27	06:15:12	8688	213	-22389	75	T	-n	-0.2635	1.0485	28S	115E	75	167	04m10s
0190-Apr-22	08:26:00	8684	212	-22383	80	A	p-	-0.3425	0.9551	8S	94E	70	174	05m44s
0190-Oct-16	20:54:40	8679	212	-22377	85	H3	n-	0.4294	1.0152	16N	93W	64	57	01m30s
0191-Apr-11	13:46:24	8675	212	-22371	90	P	t-	-1.0760	0.8498	72S	75E	0		
0191-Oct-06	06:10:39	8670	212	-22365	95	P	t-	1.1872	0.6440	72N	164W	0		
0192-Mar-01	17:36:50	8666	212	-22360	62	T	-p	0.8504	1.0507	48N	66W	31	318	03m44s
0192-Aug-25	15:03:49	8662	212	-22354	67	P	-t	-1.0263	0.9114	71S	64W	0		
0193-Feb-19	09:59:56	8657	212	-22348	72	T	-n	0.1551	1.0509	3S	68E	81	171	04m47s
0193-Aug-14	16:50:41	8652	212	-22342	77	A	nn	-0.2691	0.9683	0S	39W	74	118	03m56s
0194-Feb-08	23:25:47	8648	211	-22336	82	A	p-	-0.5731	0.9977	49S	120W	55	10	00m12s
0194-Aug-04	01:35:53	8643	211	-22330	87	T	p-	0.4913	1.0245	47N	160W	60	96	02m02s
0195-Jan-29	06:02:21	8639	211	-22324	92	P	t-	-1.3384	0.3839	69S	79W	0		
0195-Jun-25	09:43:06	8635	211	-22319	59	P	-t	-1.3135	0.4160	66S	82E	0		
0195-Jul-24	16:36:23	8634	211	-22318	97	P	t-	1.1946	0.6455	69N	129E	0		
0195-Dec-19	11:13:06	8630	211	-22313	64	A+	-p	0.9989	0.9521	65N	65E	0		

## 3RD CENTURY CE

0201-Mar-22	01:51:23	8580	210	-22248	81	T	p-	0.4285	1.0578	22N	177E	64	209	04m35s
0201-Sep-15	03:14:23	8576	210	-22242	86	A	p-	-0.4455	0.9286	20S	153E	63	295	08m01s
0202-Feb-10	09:14:51	8572	209	-22237	53	P	-t	-1.4883	0.0931	62S	160W	0		

0202-Mar-11	18:30:37	8571	209	-22236	91	P	t-	1.1300	0.7686	61N	142W	0			
0202-Sep-04	03:46:07	8567	209	-22230	96	P	t-	-1.1471	0.7121	61S	83E	0			
0203-Jan-30	20:59:43	8563	209	-22225	63	A	-p	-0.8448	0.9742	66S	45W	32	172	01m47s	
0203-Jul-26	00:44:22	8558	209	-22219	68	T	-p	0.8515	1.0355	70N	103W	31	228	02m09s	
0204-Jan-20	01:22:14	8553	209	-22213	73	A	nn	-0.1521	0.9324	29S	158W	81	256	07m51s	
0204-Jul-14	16:51:30	8549	209	-22207	78	T	nn	0.0967	1.0774	28N	35W	84	252	06m27s	
0205-Jan-08	00:40:12	8544	209	-22201	83	A	p-	0.5387	0.9196	9N	159W	57	359	11m09s	
0205-Jul-04	09:43:58	8540	209	-22195	88	T	p-	-0.6479	1.0570	17S	63E	49	246	05m23s	
0205-Dec-28	02:21:09	8535	208	-22189	93	P	t-	1.1972	0.6259	65N	161E	0			
0206-May-25	11:32:28	8531	208	-22184	60	P	-t	1.2388	0.5557	68N	123W	0			
0206-Jun-23	22:44:33	8531	208	-22183	98	P	t-	-1.4595	0.1559	66S	140W	0			
0206-Nov-17	23:23:03	8527	208	-22178	65	T	-p	-0.9445	1.0218	82S	129E	19	233	01m12s	
0207-May-14	14:17:36	8522	208	-22172	70	A	-p	0.5007	0.9476	48N	8W	60	223	05m22s	
0207-Nov-07	15:00:53	8517	208	-22166	75	T	-n	-0.2710	1.0461	32S	17W	74	159	03m55s	
0208-May-02	15:02:55	8513	208	-22160	80	A	pn	-0.2629	0.9593	0N	8W	75	153	05m17s	
0208-Oct-27	05:23:37	8508	208	-22154	85	H	n-	0.4190	1.0103	11N	137E	65	39	01m03s	
0209-Apr-21	20:55:34	8504	208	-22148	90	P	t-	-1.0057	0.9792	71S	46W	0			
0209-Oct-16	14:10:09	8499	207	-22142	95	P	t-	1.1714	0.6704	71N	62E	0			
0210-Mar-13	01:40:30	8495	207	-22137	62	T	-p	0.8908	1.0536	55N	164E	27	390	03m38s	
0210-Sep-05	22:10:47	8491	207	-22131	67	P	-t	-1.0755	0.8276	72S	174E	0			
0211-Mar-02	18:11:23	8486	207	-22125	72	T	-n	0.1898	1.0521	3N	57W	79	176	04m51s	
0211-Aug-26	00:06:04	8481	207	-22119	77	A	-n	-0.3233	0.9680	7S	151W	71	122	03m51s	
0212-Feb-20	07:28:37	8477	207	-22113	82	A	p-	-0.5463	0.9978	43S	119E	57	9	00m11s	
0212-Aug-14	09:09:55	8472	207	-22107	87	T	p-	0.4331	1.0255	40N	86E	64	96	02m12s	
0213-Feb-08	13:48:10	8468	207	-22101	92	P	t-	-1.3163	0.4214	70S	151E	0			
0213-Jul-05	17:12:19	8464	206	-22096	59	P	-t	-1.3833	0.2803	67S	42W	0			
0213-Aug-04	00:18:09	8463	206	-22095	97	P	t-	1.1338	0.7623	69N	1E	0			
0213-Dec-29	19:16:07	8459	206	-22090	64	A+	-p	1.0045	0.9438	67N	67W	0			
0214-Jun-25	09:30:24	8455	206	-22084	69	T	-p	-0.6795	1.0448	19S	76E	47	203	04m23s	
0214-Dec-18	22:45:46	8450	206	-22078	74	A	-n	0.2793	0.9696	8S	124W	74	114	03m41s	
0215-Jun-14	20:45:05	8445	206	-22072	79	A	nn	0.0868	0.9946	28N	98W	85	19	00m34s	
0215-Dec-08	09:31:40	8441	206	-22066	84	T	n-	-0.4195	1.0220	47S	64E	65	83	01m46s	
0216-Jun-03	00:48:05	8436	206	-22060	89	A	p-	0.8837	0.9464	77N	137E	28	426	03m48s	

0216-Nov-27	00:42:16	8432	206	-22054	94	P	t-	-1.0675	0.8821	64S	61E	0			
0217-Apr-23	11:30:08	8428	205	-22049	61	P	-t	-1.1861	0.6474	61S	108E	0			
0217-Oct-18	03:23:04	8423	205	-22043	66	A	-t	0.9883	0.9833	58N	140W	8	422	01m10s	
0218-Apr-12	19:22:23	8419	205	-22037	71	T	-n	-0.3773	1.0195	11S	65W	68	71	01m49s	
0218-Oct-07	10:08:38	8414	205	-22031	76	A	-n	0.3036	0.9465	10N	69E	72	205	05m51s	
0219-Apr-02	09:40:37	8409	205	-22025	81	T	n-	0.3749	1.0629	24N	59E	68	221	04m56s	
0219-Sep-26	10:36:37	8405	205	-22019	86	A	p-	-0.4072	0.9259	22S	41E	66	301	08m13s	
0220-Feb-21	17:30:31	8401	205	-22014	53	Pe	-t	-1.5198	0.0340	61S	67E	0			
0220-Mar-22	02:29:09	8400	205	-22013	91	P	t-	1.0856	0.8541	61N	89E	0			
0220-Sep-14	11:12:55	8396	205	-22007	96	P	t-	-1.1023	0.7888	61S	38W	0			
0221-Feb-10	05:01:51	8392	205	-22002	63	A	-p	-0.8723	0.9731	63S	163W	29	195	01m52s	
0221-Aug-05	08:18:43	8387	204	-21996	68	T	-p	0.9088	1.0339	69N	159E	24	276	01m58s	
0222-Jan-30	09:09:13	8383	204	-21990	73	A	nn	-0.1742	0.9331	27S	86E	80	254	07m36s	
0222-Jul-26	00:30:10	8378	204	-21984	78	T	-n	0.1611	1.0754	29N	148W	81	248	06m06s	
0223-Jan-19	08:29:39	8373	204	-21978	83	A	p-	0.5219	0.9226	10N	82E	58	339	10m21s	
0223-Jul-15	17:09:57	8369	204	-21972	88	T	p-	-0.5801	1.0536	13S	51W	54	216	05m05s	
0224-Jan-08	10:35:54	8364	204	-21966	93	P	t-	1.1866	0.6448	64N	27E	0			
0224-Jun-04	18:12:16	8360	204	-21961	60	P	-t	1.3247	0.4039	67N	125E	0			
0224-Jul-04	05:42:14	8359	204	-21960	98	P	t-	-1.3892	0.2849	65S	105E	0			
0224-Nov-28	08:13:15	8356	204	-21955	65	T	-p	-0.9438	1.0230	85S	35W	19	244	01m15s	
0225-May-24	20:39:15	8351	203	-21949	70	A	-p	0.5889	0.9468	57N	103W	54	243	05m02s	
0225-Nov-17	23:50:54	8346	203	-21943	75	T	-n	-0.2748	1.0440	35S	149W	74	153	03m43s	
0226-May-13	21:36:50	8342	203	-21937	80	A	nn	-0.1800	0.9631	8N	109W	80	136	04m47s	
0226-Nov-07	13:57:53	8337	203	-21931	85	H	n-	0.4134	1.0058	8N	7E	66	22	00m37s	
0227-May-03	04:01:57	8333	203	-21925	90	H	t-	-0.9321	1.0011	52S	172E	21	10	00m05s	
0227-Oct-27	22:15:00	8328	203	-21919	95	P	t-	1.1607	0.6880	71N	74W	0			
0228-Mar-23	09:38:30	8324	203	-21914	62	T	-t	0.9362	1.0557	64N	30E	20	529	03m27s	
0228-Sep-16	05:26:11	8320	203	-21908	67	P	-t	-1.1175	0.7562	72S	51E	0			
0229-Mar-13	02:14:21	8315	202	-21902	72	T	-n	0.2311	1.0532	10N	180E	77	180	04m52s	
0229-Sep-05	07:31:54	8310	202	-21896	77	A	-n	-0.3695	0.9676	14S	95E	68	125	03m46s	
0230-Mar-02	15:22:26	8306	202	-21890	82	A	p-	-0.5131	0.9980	37S	2W	59	8	00m11s	
0230-Aug-25	16:53:03	8301	202	-21884	87	T	p-	0.3818	1.0261	33N	32W	67	96	02m20s	
0231-Feb-19	21:24:55	8297	202	-21878	92	P	t-	-1.2877	0.4701	71S	23E	0			

0231-Jul-17	00:46:15	8293	202	-21873	59	P	-t	-1.4491	0.1534	68S	167W	0		
0231-Aug-15	08:07:15	8292	202	-21872	97	P	t-	1.0790	0.8671	70N	129W	0		
0232-Jan-10	03:14:41	8288	202	-21867	64	A+	-t	1.0140	0.9294	68N	162E	0		
0232-Jul-05	16:47:39	8283	202	-21861	69	T	-p	-0.7546	1.0389	26S	37W	41	199	03m44s
0232-Dec-29	07:10:19	8279	201	-21855	74	A	-n	0.2832	0.9736	7S	109E	74	99	03m12s
0233-Jun-25	03:33:55	8274	201	-21849	79	A	nn	0.0063	0.9905	24N	161E	89	34	01m04s
0233-Dec-18	18:17:39	8270	201	-21843	84	T	n-	-0.4162	1.0249	48S	64W	65	93	02m00s
0234-Jun-14	07:11:33	8265	201	-21837	89	A	p-	0.7976	0.9469	74N	77E	37	326	04m05s
0234-Dec-08	09:36:01	8260	201	-21831	94	P	t-	-1.0663	0.8841	64S	83W	0		
0235-May-04	18:14:38	8257	201	-21826	61	P	-t	-1.2591	0.5200	62S	3W	0		
0235-Jun-03	07:49:41	8256	201	-21825	99	Pb	t-	1.5419	0.0316	64N	52W	0		
0235-Oct-29	11:46:07	8252	201	-21820	66	A+	-t	1.0028	0.9784	62N	98E	0		
0236-Apr-23	02:39:48	8247	201	-21814	71	T	-p	-0.4434	1.0248	12S	175W	64	93	02m20s
0236-Oct-17	18:01:33	8243	201	-21808	76	A	-n	0.3246	0.9417	7N	51W	71	226	06m37s
0237-Apr-12	17:21:39	8238	200	-21802	81	T	n-	0.3140	1.0677	25N	55W	72	232	05m18s
0237-Oct-06	18:09:06	8234	200	-21796	86	A	p-	-0.3772	0.9234	25S	72W	68	309	08m25s
0238-Apr-02	10:19:37	8229	200	-21790	91	P	t-	1.0348	0.9521	61N	38W	0		
0238-Sep-25	18:49:30	8224	200	-21784	96	P	t-	-1.0647	0.8531	61S	161W	0		
0239-Feb-21	12:55:57	8220	200	-21779	63	A	-t	-0.9055	0.9719	61S	82E	25	235	01m57s
0239-Aug-16	16:00:02	8216	200	-21773	68	T	-t	0.9609	1.0313	66N	59E	15	391	01m45s
0240-Feb-10	16:48:27	8211	200	-21767	73	A	nn	-0.2020	0.9342	25S	28W	78	250	07m21s
0240-Aug-05	08:13:00	8207	200	-21761	78	T	-n	0.2220	1.0727	29N	97E	77	242	05m45s
0241-Jan-29	16:13:36	8202	199	-21755	83	A	p-	0.5003	0.9261	10N	36W	60	317	09m27s
0241-Jul-26	00:39:44	8197	199	-21749	88	T	p-	-0.5161	1.0495	10S	165W	59	190	04m40s
0242-Jan-18	18:45:45	8193	199	-21743	93	P	t-	1.1712	0.6725	63N	106W	0		
0242-Jun-16	00:52:05	8189	199	-21738	60	P	-t	1.4091	0.2557	66N	14E	0		
0242-Jul-15	12:43:33	8188	199	-21737	98	P	t-	-1.3223	0.4066	64S	11W	0		
0242-Dec-09	17:03:41	8184	199	-21732	65	T	-p	-0.9437	1.0246	86S	134E	19	261	01m19s
0243-Jun-05	02:59:59	8180	199	-21726	70	A	-p	0.6773	0.9456	65N	165E	47	274	04m45s
0243-Nov-29	08:42:16	8175	199	-21720	75	T	-n	-0.2773	1.0424	38S	80E	74	148	03m33s
0244-May-24	04:09:19	8170	199	-21714	80	A	nn	-0.0949	0.9665	15N	151E	85	121	04m16s
0244-Nov-17	22:34:42	8166	198	-21708	85	H	n-	0.4109	1.0019	5N	124W	66	7	00m12s
0245-May-13	11:04:48	8161	198	-21702	90	H2	t-	-0.8544	1.0086	40S	57E	31	57	00m48s

0245-Nov-07	06:24:45	8157	198	-21696	95	P	t-	1.1546	0.6977	70N	150E	0		
0246-Apr-03	17:28:23	8153	198	-21691	62	Tn	-t	0.9884	1.0553	72N	129W	7	-	02m59s
0246-Sep-27	12:51:27	8148	198	-21685	67	P	-t	-1.1516	0.6986	72S	75W	0		
0247-Mar-24	10:08:23	8143	198	-21679	72	T	-n	0.2795	1.0538	17N	58E	74	185	04m50s
0247-Sep-16	15:08:14	8139	198	-21673	77	A	-n	-0.4078	0.9671	20S	22W	66	129	03m40s
0248-Mar-12	23:04:48	8134	198	-21667	82	A	p-	-0.4711	0.9982	30S	120W	62	7	00m10s
0248-Sep-05	00:45:04	8130	198	-21661	87	T	n-	0.3373	1.0263	26N	152W	70	95	02m25s
0249-Mar-02	04:50:51	8125	197	-21655	92	P	t-	-1.2507	0.5331	72S	103W	0		
0249-Jul-27	08:24:14	8121	197	-21650	59	Pe	-t	-1.5112	0.0343	69S	66E	0		
0249-Aug-25	16:03:56	8120	197	-21649	97	P	t-	1.0304	0.9595	71N	98E	0		
0250-Jan-20	11:08:30	8116	197	-21644	64	P	-t	1.0276	0.9082	69N	31E	0		
0250-Jul-17	00:07:39	8112	197	-21638	69	T	-p	-0.8263	1.0322	34S	151W	34	194	02m57s
0251-Jan-09	15:33:14	8107	197	-21632	74	A	-n	0.2891	0.9781	6S	17W	73	82	02m38s
0251-Jul-06	10:22:27	8103	197	-21626	79	A	nn	-0.0736	0.9859	19N	58E	86	50	01m40s
0251-Dec-30	03:03:29	8098	197	-21620	84	T	n-	-0.4124	1.0281	48S	168E	65	105	02m16s
0252-Jun-24	13:34:47	8093	197	-21614	89	A	p-	0.7114	0.9466	69N	0W	44	281	04m27s
0252-Dec-18	18:29:06	8089	196	-21608	94	P	t-	-1.0647	0.8872	66S	133E	0		
0253-May-15	00:56:44	8085	196	-21603	61	P	-t	-1.3346	0.3870	63S	113W	0		
0253-Jun-13	14:15:53	8084	196	-21602	99	P	t-	1.4546	0.1815	65N	159W	0		
0253-Nov-08	20:13:18	8080	196	-21597	66	P	-t	1.0134	0.9572	62N	38W	0		
0254-May-04	09:55:18	8076	196	-21591	71	T	-p	-0.5123	1.0294	13S	76E	59	115	02m49s
0254-Oct-29	01:58:37	8071	196	-21585	76	A	-p	0.3416	0.9374	5N	171W	70	246	07m23s
0255-Apr-24	00:59:04	8066	196	-21579	81	T	n-	0.2495	1.0718	25N	169W	75	241	05m39s
0255-Oct-18	01:48:48	8062	196	-21573	86	A	p-	-0.3530	0.9214	28S	173E	69	315	08m37s
0256-Apr-12	18:01:56	8057	196	-21567	91	T	t-	0.9777	1.0522	63N	139W	11	860	02m50s
0256-Oct-06	02:36:08	8052	195	-21561	96	P	t-	-1.0344	0.9049	61S	73E	0		
0257-Mar-03	20:38:21	8049	195	-21556	63	A	-t	-0.9475	0.9702	60S	28W	18	334	02m03s
0257-Aug-26	23:50:55	8044	195	-21550	68	P	-t	1.0059	0.9971	61N	34W	0		
0258-Feb-21	00:16:10	8039	195	-21544	73	A	nn	-0.2390	0.9355	23S	140W	76	247	07m06s
0258-Aug-16	16:04:02	8035	195	-21538	78	T	-n	0.2760	1.0696	29N	19W	74	235	05m25s
0259-Feb-09	23:49:40	8030	195	-21532	83	A	p-	0.4716	0.9302	11N	151W	62	292	08m32s
0259-Aug-06	08:13:23	8025	195	-21526	88	T	p-	-0.4559	1.0447	8S	81E	63	166	04m09s
0260-Jan-30	02:50:47	8021	195	-21520	93	P	t-	1.1509	0.7089	62N	123E	0		

0260-Jun-26	07:29:58	8017	195	-21515	60	Pe	-t	1.4941	0.1077	65N	97W	0			
0260-Jul-25	19:46:54	8016	195	-21514	98	P	t-	-1.2573	0.5234	63S	127W	0			
0260-Dec-20	01:54:17	8012	194	-21509	65	T	-p	-0.9437	1.0267	83S	40W	19	282	01m25s	
0261-Jun-15	09:19:10	8008	194	-21503	70	A	-p	0.7666	0.9437	74N	80E	40	326	04m31s	
0261-Dec-09	17:35:16	8003	194	-21497	75	T	-n	-0.2784	1.0413	40S	51W	74	144	03m26s	
0262-Jun-04	10:42:03	7998	194	-21491	80	A	nn	-0.0094	0.9694	22N	51E	90	110	03m45s	
0262-Nov-29	07:13:09	7994	194	-21485	85	A	n-	0.4104	0.9984	2N	105E	66	6	00m11s	
0263-May-24	18:07:45	7989	194	-21479	90	T	p-	-0.7756	1.0151	30S	55W	39	82	01m30s	
0263-Nov-18	14:37:58	7984	194	-21473	95	P	t-	1.1519	0.7016	69N	14E	0			
0264-Apr-14	01:12:03	7981	194	-21468	62	P	-t	1.0460	0.9333	71N	76E	0			
0264-May-13	08:17:03	7980	194	-21467	100	Pb	t-	-1.4731	0.1094	69S	116E	0			
0264-Oct-07	20:25:40	7976	193	-21462	67	P	-t	-1.1785	0.6532	72S	156E	0			
0265-Apr-03	17:54:42	7971	193	-21456	72	T	-n	0.3340	1.0540	24N	61W	70	189	04m44s	
0265-Sep-26	22:54:30	7967	193	-21450	77	A	-p	-0.4386	0.9669	26S	141W	64	132	03m32s	
0266-Mar-24	06:38:19	7962	193	-21444	82	A	p-	-0.4226	0.9982	23S	123E	65	7	00m11s	
0266-Sep-16	08:47:11	7957	193	-21438	87	T	n-	0.3005	1.0264	20N	86E	72	94	02m29s	
0267-Mar-13	12:07:26	7953	193	-21432	92	P	t-	-1.2068	0.6082	72S	133E	0			
0267-Sep-06	00:07:59	7948	193	-21426	97	Tn	t-	0.9879	1.0472	73N	63W	8	-	02m32s	
0268-Jan-31	18:55:49	7944	193	-21421	64	P	-t	1.0467	0.8776	70N	98W	0			
0268-Jul-27	07:31:31	7940	193	-21415	69	T	-t	-0.8937	1.0247	43S	91E	26	188	02m07s	
0269-Jan-19	23:50:00	7935	192	-21409	74	A	-n	0.3007	0.9831	3S	143W	73	63	01m59s	
0269-Jul-16	17:14:10	7930	192	-21403	79	A	nn	-0.1497	0.9808	13N	45W	81	69	02m21s	
0270-Jan-09	11:44:49	7926	192	-21397	84	T	n-	-0.4048	1.0320	46S	41E	66	118	02m35s	
0270-Jul-05	20:00:32	7921	192	-21391	89	A	p-	0.6272	0.9456	62N	87W	51	258	04m54s	
0270-Dec-30	03:19:18	7916	192	-21385	94	P	t-	-1.0611	0.8941	67S	11W	0			
0271-May-26	07:37:40	7913	192	-21380	61	P	-t	-1.4112	0.2510	63S	137E	0			
0271-Jun-24	20:44:19	7912	192	-21379	99	P	t-	1.3682	0.3306	66N	94E	0			
0271-Nov-20	04:44:06	7908	192	-21374	66	P	-t	1.0202	0.9433	63N	176W	0			
0272-May-14	17:05:51	7903	192	-21368	71	T	-p	-0.5859	1.0334	15S	33W	54	137	03m13s	
0272-Nov-08	10:01:57	7899	191	-21362	76	A	-p	0.3526	0.9337	2N	67E	69	262	08m10s	
0273-May-04	08:30:38	7894	191	-21356	81	T	n-	0.1801	1.0753	25N	79E	79	248	06m02s	
0273-Oct-28	09:36:25	7889	191	-21350	86	A	n-	-0.3354	0.9197	31S	56E	70	321	08m49s	
0274-Apr-24	01:38:10	7885	191	-21344	91	T	p-	0.9160	1.0564	63N	125E	23	463	03m14s	

0274-Oct-17	10:32:20	7880	191	-21338	96	A-	t-	-1.0115	0.9442	61S	56W	0							
0275-Mar-15	04:12:14	7876	191	-21333	63	As	-t	-0.9955	0.9661	61S	121W	4	-	02m10s					
0275-Sep-07	07:48:59	7871	191	-21327	68	P	-t	1.0455	0.9225	61N	163W	0							
0276-Mar-03	07:35:58	7867	191	-21321	73	A	-n	-0.2820	0.9370	21S	110E	73	243	06m53s					
0276-Aug-27	00:01:11	7862	191	-21315	78	T	-n	0.3248	1.0660	27N	138W	71	227	05m06s					
0277-Feb-20	07:17:35	7858	190	-21309	83	A	p-	0.4357	0.9346	12N	96E	64	267	07m40s					
0277-Aug-16	15:53:20	7853	190	-21303	88	T	n-	-0.4015	1.0395	8S	35W	66	143	03m37s					
0278-Feb-09	10:49:31	7848	190	-21297	93	P	t-	1.1244	0.7567	62N	6W	0							
0278-Aug-06	02:55:12	7844	190	-21291	98	P	t-	-1.1971	0.6306	62S	116E	0							
0278-Dec-31	10:41:40	7840	190	-21286	65	T	-p	-0.9469	1.0291	79S	171E	18	315	01m32s					
0279-Jun-26	15:41:04	7835	190	-21280	70	A	-p	0.8533	0.9411	80N	16E	31	423	04m20s					
0279-Dec-21	02:26:15	7830	190	-21274	75	T	-n	-0.2810	1.0406	40S	179E	73	142	03m21s					
0280-Jun-14	17:15:36	7826	190	-21268	80	A	nn	0.0763	0.9718	28N	47W	85	102	03m18s					
0280-Dec-09	15:51:24	7821	189	-21262	85	A	n-	0.4103	0.9955	1N	26W	66	17	00m30s					
0281-Jun-04	01:10:47	7816	189	-21256	90	T	p-	-0.6955	1.0205	22S	165W	46	97	02m08s					
0281-Nov-28	22:51:59	7812	189	-21250	95	P	t-	1.1503	0.7037	68N	122W	0							
0282-Apr-25	08:49:52	7808	189	-21245	62	P	-t	1.1086	0.8130	71N	52W	0							
0282-May-24	15:41:19	7807	189	-21244	100	P	t-	-1.4001	0.2493	68S	8W	0							
0282-Oct-19	04:09:32	7803	189	-21239	67	P	-t	-1.1980	0.6204	71S	26E	0							
0283-Apr-15	01:32:42	7799	189	-21233	72	T	-p	0.3950	1.0537	32N	178W	67	193	04m32s					
0283-Oct-08	06:50:49	7794	189	-21227	77	A	-p	-0.4619	0.9669	32S	98E	62	134	03m24s					
0284-Apr-03	14:01:24	7789	189	-21221	82	A	n-	-0.3663	0.9980	15S	9E	68	7	00m13s					
0284-Sep-26	16:58:41	7785	189	-21215	87	T	n-	0.2711	1.0263	14N	39W	74	92	02m31s					
0285-Mar-23	19:12:16	7780	188	-21209	92	P	t-	-1.1539	0.6988	72S	12E	0							
0285-Sep-16	08:20:50	7775	188	-21203	97	T	t-	0.9529	1.0475	67N	135E	17	532	02m51s					
0286-Feb-11	02:37:03	7771	188	-21198	64	P	-t	1.0709	0.8384	71N	133E	0							
0286-Aug-07	14:59:14	7767	188	-21192	69	T	-t	-0.9569	1.0161	55S	31W	16	194	01m15s					
0287-Jan-31	08:02:50	7762	188	-21186	74	A	-n	0.3162	0.9886	1N	93E	72	42	01m18s					
0287-Jul-28	00:08:24	7757	188	-21180	79	A	nn	-0.2227	0.9754	7N	151W	77	90	03m04s					
0288-Jan-20	20:22:32	7753	188	-21174	84	T	n-	-0.3937	1.0362	43S	86W	67	133	02m57s					
0288-Jul-16	02:28:54	7748	188	-21168	89	A	p-	0.5452	0.9441	55N	179E	57	247	05m26s					
0289-Jan-09	12:06:16	7743	188	-21162	94	P	t-	-1.0552	0.9055	68S	154W	0							
0289-Jun-05	14:19:52	7740	187	-21157	61	Pe	-t	-1.4871	0.1152	64S	26E	0							



0289-Jul-05	03:17:48	7739	187	-21156	99	P	t-	1.2846	0.4752	67N	16W	0			
0289-Nov-30	13:14:53	7735	187	-21151	66	P	-t	1.0263	0.9309	64N	46E	0			
0290-May-26	00:17:45	7730	187	-21145	71	T	-p	-0.6591	1.0366	19S	142W	49	162	03m32s	
0290-Nov-19	18:07:41	7726	187	-21139	76	A	-p	0.3607	0.9307	0N	56W	69	276	08m56s	
0291-May-15	15:59:50	7721	187	-21133	81	T	nn	0.1083	1.0781	25N	32W	84	254	06m24s	
0291-Nov-08	17:29:33	7716	187	-21127	86	A	n-	-0.3222	0.9186	34S	62W	71	325	09m00s	
0292-May-04	09:08:24	7711	187	-21121	91	T	p-	0.8498	1.0586	64N	24E	31	364	03m29s	
0292-Oct-27	18:36:37	7707	187	-21115	96	As	t-	-0.9941	0.9382	64S	177W	5	-	03m49s	
0293-Mar-25	11:33:46	7703	186	-21110	63	P	-t	-1.0529	0.8844	61S	127E	0			
0293-Sep-17	15:57:40	7698	186	-21104	68	P	-t	1.0772	0.8626	61N	65E	0			
0294-Mar-14	14:44:30	7694	186	-21098	73	A	-p	-0.3342	0.9385	20S	3E	70	240	06m43s	
0294-Sep-07	08:06:17	7689	186	-21092	78	T	-n	0.3670	1.0621	25N	101E	68	218	04m49s	
0295-Mar-03	14:37:00	7684	186	-21086	83	A	p-	0.3921	0.9393	14N	15W	67	242	06m51s	
0295-Aug-27	23:39:21	7680	186	-21080	88	T	n-	-0.3528	1.0338	8S	152W	69	121	03m03s	
0296-Feb-20	18:40:37	7675	186	-21074	93	P	t-	1.0909	0.8175	61N	133W	0			
0296-Aug-16	10:08:22	7670	186	-21068	98	P	t-	-1.1413	0.7285	62S	2W	0			
0297-Jan-10	19:26:31	7666	186	-21063	65	T	-p	-0.9527	1.0318	75S	30E	17	364	01m40s	
0297-Jul-06	22:05:27	7662	185	-21057	70	A	-t	0.9378	0.9373	79N	15W	20	687	04m12s	
0297-Dec-31	11:14:53	7657	185	-21051	75	T	-n	-0.2854	1.0404	40S	49E	73	141	03m19s	
0298-Jun-25	23:53:19	7652	185	-21045	80	Am	nn	0.1594	0.9737	33N	145W	81	96	02m55s	
0298-Dec-21	00:29:10	7648	185	-21039	85	A	n-	0.4102	0.9932	0N	157W	66	26	00m46s	
0299-Jun-15	08:15:12	7643	185	-21033	90	T	p-	-0.6155	1.0251	15S	86E	52	108	02m40s	
0299-Dec-10	07:07:04	7638	185	-21027	95	P	t-	1.1502	0.7036	67N	103E	0			
0300-May-05	16:23:30	7634	185	-21022	62	P	-t	1.1750	0.6848	70N	179W	0			
0300-Jun-03	23:04:49	7634	185	-21021	100	P	t-	-1.3257	0.3928	67S	131W	0			
0300-Oct-29	12:00:42	7630	185	-21016	67	P	-t	-1.2117	0.5975	71S	106W	0			

## 4TH CENTURY CE

In the 4th century CE the total number of solar eclipses was 222 solar eclipses:

**74 partial solar eclipses, 75 annular solar eclipses (71 central annular solar eclipses with two limits, 3 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 66 total solar eclipses (65 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 7 hybrid solar eclipses.**

CALENDAR	TD	$\Delta T$	$\Delta T$	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
	GREATEST		S									°	km	
	ECLIPSE													
0301-Apr-25	09:04:03	7625	185	-21010	72	T	-p	0.4609	1.0526	40N	66E	62	196	04m16s
0301-Oct-18	14:56:09	7620	184	-21004	77	A	-p	-0.4786	0.9672	37S	25W	61	134	03m15s
0302-Apr-14	21:16:49	7616	184	-20998	82	A	n-	-0.3046	0.9974	8S	103W	72	9	00m17s
0302-Oct-08	01:17:47	7611	184	-20992	87	T	n-	0.2475	1.0263	8N	166W	76	92	02m34s
0303-Apr-04	02:08:48	7606	184	-20986	92	P	t-	-1.0946	0.8006	72S	107W	0		
0303-Sep-27	16:41:13	7602	184	-20980	97	T	p-	0.9241	1.0463	61N	5W	22	405	03m00s
0304-Feb-22	10:09:03	7598	184	-20975	64	P	-t	1.1030	0.7852	71N	6E	0		
0304-Aug-17	22:32:50	7593	184	-20969	69	P	-t	-1.0144	0.9707	71S	173W	0		
0305-Feb-10	16:07:45	7588	184	-20963	74	A	-n	0.3392	0.9944	5N	31W	70	21	00m37s
0305-Aug-07	07:08:42	7584	183	-20957	79	A	-p	-0.2897	0.9697	0N	102E	73	114	03m48s
0306-Jan-31	04:53:03	7579	183	-20951	84	T	n-	-0.3762	1.0408	39S	148E	68	147	03m23s
0306-Jul-27	09:03:47	7574	183	-20945	89	A	p-	0.4685	0.9422	47N	82E	62	242	06m03s
0307-Jan-20	20:48:09	7570	183	-20939	94	P	t-	-1.0456	0.9241	69S	63E	0		
0307-Jul-16	09:55:27	7565	183	-20933	99	P	t-	1.2032	0.6162	68N	127W	0		
0307-Dec-11	21:46:57	7561	183	-20928	66	P	-t	1.0306	0.9220	65N	92W	0		
0308-Jun-05	07:28:10	7556	183	-20922	71	T	-p	-0.7340	1.0389	24S	108E	43	191	03m43s
0308-Nov-30	02:16:14	7552	183	-20916	76	A	-p	0.3663	0.9284	1S	179W	69	288	09m37s
0309-May-25	23:25:56	7547	183	-20910	81	T	nn	0.0335	1.0799	23N	142W	88	258	06m45s
0309-Nov-19	01:28:29	7542	182	-20904	86	A	n-	-0.3135	0.9181	37S	179E	72	327	09m08s
0310-May-15	16:34:45	7538	182	-20898	91	T	p-	0.7805	1.0596	64N	76W	38	313	03m41s
0310-Nov-08	02:47:21	7533	182	-20892	96	As	t-	-0.9811	0.9405	67S	63E	10	-	03m43s

0311-Apr-05	18:47:48	7529	182	-20887	63	P	-t	-1.1154	0.7739	61S	9E	0		
0311-Sep-29	00:13:57	7524	182	-20881	68	P	-t	1.1034	0.8132	61N	68W	0		
0312-Mar-24	21:43:45	7520	182	-20875	73	A	-p	-0.3934	0.9401	18S	101W	67	239	06m36s
0312-Sep-17	16:18:44	7515	182	-20869	78	T	-n	0.4030	1.0581	23N	23W	66	207	04m33s
0313-Mar-13	21:48:44	7510	182	-20863	83	A	p-	0.3418	0.9442	15N	123W	70	217	06m08s
0313-Sep-07	07:32:43	7505	182	-20857	88	T	n-	-0.3109	1.0280	10S	89E	72	99	02m30s
0314-Mar-03	02:24:55	7501	181	-20851	93	P	t-	1.0508	0.8908	61N	101E	0		
0314-Aug-27	17:29:00	7496	181	-20845	98	P	t-	-1.0923	0.8134	61S	122W	0		
0315-Jan-22	04:06:02	7492	181	-20840	65	T	-p	-0.9635	1.0344	72S	104W	15	448	01m48s
0315-Jul-18	04:34:31	7487	181	-20834	70	P	-t	1.0182	0.9299	64N	75W	0		
0316-Jan-11	19:59:13	7483	181	-20828	75	T	-n	-0.2934	1.0406	38S	80W	73	142	03m18s
0316-Jul-06	06:35:40	7478	181	-20822	80	A	nn	0.2399	0.9750	37N	116E	76	92	02m37s
0316-Dec-31	09:02:03	7473	181	-20816	85	A	n-	0.4068	0.9915	0N	73E	66	33	00m58s
0317-Jun-25	15:23:01	7469	181	-20810	90	T	p-	-0.5371	1.0288	9S	24W	57	116	03m04s
0317-Dec-20	15:19:47	7464	180	-20804	95	P	t-	1.1483	0.7064	66N	32W	0		
0318-May-16	23:53:24	7460	180	-20799	62	P	-t	1.2443	0.5503	69N	56E	0		
0318-Jun-15	06:28:57	7459	180	-20798	100	P	t-	-1.2513	0.5366	66S	107E	0		
0318-Nov-09	19:58:08	7455	180	-20793	67	P	-t	-1.2208	0.5823	70S	121E	0		
0319-May-06	16:28:57	7451	180	-20787	72	T	-p	0.5317	1.0508	48N	47W	58	199	03m56s
0319-Oct-29	23:09:56	7446	180	-20781	77	A	-p	-0.4891	0.9679	42S	149W	60	132	03m04s
0320-Apr-25	04:21:47	7441	180	-20775	82	A	nn	-0.2350	0.9965	0N	148E	76	13	00m24s
0320-Oct-18	09:45:59	7437	180	-20769	87	T	n-	0.2309	1.0263	3N	65E	77	92	02m36s
0321-Apr-14	08:55:39	7432	180	-20763	92	P	t-	-1.0275	0.9158	71S	137E	0		
0321-Oct-08	01:09:28	7427	180	-20757	97	T	p-	0.9019	1.0445	55N	142W	25	344	03m05s
0322-Mar-04	17:34:20	7423	179	-20752	64	P	-t	1.1411	0.7213	72N	120W	0		
0322-Aug-29	06:12:49	7419	179	-20746	69	P	-t	-1.0657	0.8738	71S	58E	0		
0323-Feb-22	00:07:45	7414	179	-20740	74	H	-n	0.3670	1.0004	10N	153W	68	2	00m03s
0323-Aug-18	14:13:09	7409	179	-20734	79	A	-p	-0.3523	0.9638	7S	7W	69	139	04m29s
0324-Feb-11	13:18:42	7404	179	-20728	84	T	n-	-0.3544	1.0457	34S	21E	69	163	03m50s
0324-Aug-06	15:44:39	7400	179	-20722	89	A	p-	0.3968	0.9399	40N	19W	66	243	06m41s
0325-Jan-31	05:23:15	7395	179	-20716	94	P	t-	-1.0310	0.9524	70S	79W	0		
0325-Jul-26	16:41:34	7390	179	-20710	99	P	t-	1.1277	0.7470	69N	119E	0		
0325-Dec-22	06:16:03	7386	179	-20705	66	P	-t	1.0363	0.9109	66N	130E	0		

0326-Jun-16	14:41:50	7382	178	-20699	71	T	-p	-0.8070	1.0403	30S	3W	36	228	03m43s
0326-Dec-11	10:23:15	7377	178	-20693	76	A	-p	0.3723	0.9267	2S	58E	68	296	10m11s
0327-Jun-06	06:52:09	7372	178	-20687	81	Tm	nn	-0.0412	1.0810	21N	107E	88	261	07m03s
0327-Nov-30	09:29:43	7367	178	-20681	86	A	n-	-0.3064	0.9183	39S	61E	72	326	09m12s
0328-May-25	23:56:18	7363	178	-20675	91	T	p-	0.7078	1.0596	63N	176W	45	277	03m50s
0328-Nov-18	11:03:58	7358	178	-20669	96	A	t-	-0.9723	0.9426	71S	66W	13	954	03m33s
0329-Apr-16	01:51:08	7354	178	-20664	63	P	-t	-1.1854	0.6502	61S	106W	0		
0329-May-15	13:16:22	7353	178	-20663	101	Pb	t-	1.5196	0.0458	63N	122W	0		
0329-Oct-09	08:39:22	7349	178	-20658	68	P	-t	1.1225	0.7772	61N	156E	0		
0330-Apr-05	04:33:15	7345	178	-20652	73	A	-p	-0.4602	0.9413	18S	156E	62	241	06m34s
0330-Sep-29	00:40:06	7340	177	-20646	78	T	-n	0.4312	1.0540	20N	149W	64	196	04m19s
0331-Mar-25	04:51:59	7335	177	-20640	83	A	p-	0.2838	0.9493	16N	131E	73	193	05m28s
0331-Sep-18	15:32:55	7331	177	-20634	88	T	n-	-0.2755	1.0221	12S	32W	74	78	01m58s
0332-Mar-13	10:01:44	7326	177	-20628	93	P	t-	1.0037	0.9777	61N	22W	0		
0332-Sep-07	00:56:32	7321	177	-20622	98	P	t-	-1.0493	0.8867	61S	117E	0		
0333-Feb-01	12:39:42	7317	177	-20617	65	T	-t	-0.9794	1.0368	68S	128E	11	653	01m54s
0333-Jul-28	11:09:37	7312	177	-20611	70	P	-t	1.0936	0.8009	63N	177E	0		
0334-Jan-22	04:39:03	7308	177	-20605	75	T	-n	-0.3051	1.0410	37S	152E	72	144	03m19s
0334-Jul-17	13:23:22	7303	177	-20599	80	A	nn	0.3166	0.9759	39N	17E	71	91	02m23s
0335-Jan-11	17:31:20	7298	176	-20593	85	A	n-	0.4010	0.9901	1N	55W	66	38	01m05s
0335-Jul-06	22:34:48	7294	176	-20587	90	T	p-	-0.4609	1.0319	4S	133W	63	121	03m20s
0335-Dec-31	23:29:40	7289	176	-20581	95	P	t-	1.1449	0.7121	65N	165W	0		
0336-May-27	07:20:19	7285	176	-20576	62	P	-t	1.3159	0.4110	68N	68W	0		
0336-Jun-25	13:54:13	7284	176	-20575	100	P	t-	-1.1775	0.6797	65S	16W	0		
0336-Nov-20	04:00:27	7280	176	-20570	67	P	-t	-1.2262	0.5734	69S	13W	0		
0337-May-16	23:49:52	7275	176	-20564	72	T	-p	0.6052	1.0481	56N	158W	52	201	03m31s
0337-Nov-09	07:29:07	7271	176	-20558	77	A	-p	-0.4960	0.9691	47S	87E	60	128	02m52s
0338-May-06	11:21:52	7266	176	-20552	82	Am	nn	-0.1622	0.9949	7N	40E	81	18	00m35s
0338-Oct-29	18:20:45	7261	176	-20546	87	T	n-	0.2191	1.0266	2S	65W	77	92	02m39s
0339-Apr-25	15:35:05	7257	175	-20540	92	A	t-	-0.9546	0.9409	57S	1E	17	746	05m24s
0339-Oct-19	09:44:31	7252	175	-20534	97	T	p-	0.8853	1.0425	50N	83E	27	305	03m07s
0340-Mar-15	00:51:12	7248	175	-20529	64	P	-t	1.1865	0.6443	72N	116E	0		
0340-Sep-08	14:00:25	7243	175	-20523	69	P	-t	-1.1097	0.7914	72S	74W	0		

0341-Mar-04	07:58:30	7238	175	-20517	74	H	-n	0.4032	1.0065	17N	87E	66	25	00m40s
0341-Aug-28	21:26:18	7234	175	-20511	79	A	-p	-0.4067	0.9579	14S	118W	66	167	05m06s
0342-Feb-21	21:36:27	7229	175	-20505	84	T	n-	-0.3257	1.0507	29S	104W	71	178	04m20s
0342-Aug-17	22:33:03	7224	175	-20499	89	A	p-	0.3314	0.9374	32N	122W	70	246	07m21s
0343-Feb-11	13:51:39	7219	174	-20493	94	P	t-	-1.0111	0.9907	71S	141E	0		
0343-Aug-06	23:35:00	7215	174	-20487	99	P	t-	1.0572	0.8693	70N	3E	0		
0344-Jan-02	14:42:28	7211	174	-20482	66	P	-t	1.0439	0.8969	67N	8W	0		
0344-Jun-26	21:56:39	7206	174	-20476	71	T	-p	-0.8797	1.0405	38S	115W	28	286	03m32s
0344-Dec-21	18:30:07	7201	174	-20470	76	A	-p	0.3781	0.9258	2S	65W	68	302	10m34s
0345-Jun-16	14:18:36	7197	174	-20464	81	T	nn	-0.1161	1.0811	17N	4W	83	263	07m17s
0345-Dec-10	17:32:41	7192	174	-20458	86	A	n-	-0.3005	0.9191	41S	58W	72	322	09m12s
0346-Jun-06	07:17:07	7187	174	-20452	91	T	p-	0.6347	1.0586	61N	83E	50	250	03m58s
0346-Nov-29	19:25:00	7182	174	-20446	96	A	t-	-0.9665	0.9449	74S	161E	14	827	03m23s
0347-Apr-27	08:47:29	7178	173	-20441	63	P	-t	-1.2600	0.5186	62S	140E	0		
0347-May-26	20:15:12	7178	173	-20440	101	P	t-	1.4491	0.1751	64N	123E	0		
0347-Oct-20	17:11:58	7174	173	-20435	68	P	-t	1.1366	0.7506	61N	18E	0		
0348-Apr-15	11:15:32	7169	173	-20429	73	A	-p	-0.5325	0.9424	19S	56E	58	247	06m35s
0348-Oct-09	09:08:27	7164	173	-20423	78	T	-n	0.4539	1.0501	17N	83E	63	185	04m07s
0349-Apr-04	11:48:19	7160	173	-20417	83	A	nn	0.2190	0.9542	17N	27E	77	171	04m54s
0349-Sep-28	23:40:50	7155	173	-20411	88	H3	n-	-0.2469	1.0163	15S	155W	76	57	01m27s
0350-Mar-24	17:32:51	7150	173	-20405	93	A	t-	0.9505	0.9890	57N	111W	18	124	00m45s
0350-Sep-18	08:30:37	7145	173	-20399	98	A-	t-	-1.0120	0.9491	61S	6W	0		
0351-Feb-12	21:06:33	7141	173	-20394	65	T-	-t	-1.0017	1.0104	62S	14E	0		
0351-Aug-08	17:52:10	7137	172	-20388	70	P	-t	1.1631	0.6824	62N	66E	0		
0352-Feb-02	13:10:41	7132	172	-20382	75	T	-n	-0.3235	1.0417	34S	25E	71	147	03m21s
0352-Jul-27	20:18:47	7127	172	-20376	80	A	-p	0.3880	0.9763	41N	84W	67	91	02m15s
0353-Jan-22	01:52:53	7122	172	-20370	85	A	n-	0.3894	0.9894	2N	178E	67	40	01m09s
0353-Jul-17	05:53:04	7118	172	-20364	90	T	p-	-0.3891	1.0341	1S	116E	67	124	03m27s
0354-Jan-11	07:32:59	7113	172	-20358	95	P	t-	1.1364	0.7264	64N	64E	0		
0354-Jun-07	14:46:44	7109	172	-20353	62	P	-t	1.3881	0.2707	67N	168E	0		
0354-Jul-06	21:23:27	7108	172	-20352	100	P	t-	-1.1063	0.8176	64S	139W	0		
0354-Dec-01	12:06:54	7104	172	-20347	67	P	-t	-1.2291	0.5688	68S	146W	0		
0355-May-28	07:05:26	7099	172	-20341	72	T	-p	0.6826	1.0446	65N	95E	47	204	03m04s

0355-Nov-20	15:55:03	7095	171	-20335	77	A	-p	-0.4983	0.9709	50S	37W	60	121	02m38s
0356-May-16	18:14:15	7090	171	-20329	82	A	nn	-0.0836	0.9929	15N	65W	85	25	00m49s
0356-Nov-09	03:02:08	7085	171	-20323	87	T	n-	0.2123	1.0272	5S	163E	78	94	02m44s
0357-May-05	22:07:24	7080	171	-20317	92	A	p-	-0.8759	0.9440	44S	110W	29	427	05m58s
0357-Oct-29	18:26:31	7076	171	-20311	97	T	p-	0.8745	1.0406	45N	54W	29	280	03m07s
0358-Mar-26	08:02:24	7072	171	-20306	64	P	-t	1.2369	0.5576	72N	7W	0		
0358-Sep-19	21:53:45	7067	171	-20300	69	P	-t	-1.1483	0.7200	72S	153E	0		
0359-Mar-15	15:44:28	7062	171	-20294	74	H	-p	0.4443	1.0126	23N	33W	63	48	01m13s
0359-Sep-09	04:45:21	7057	171	-20288	79	A	-p	-0.4554	0.9520	20S	129E	63	196	05m38s
0360-Mar-04	05:47:03	7053	170	-20282	84	T	n-	-0.2906	1.0557	22S	131E	73	192	04m50s
0360-Aug-28	05:30:02	7048	170	-20276	89	A	nn	0.2728	0.9348	25N	132E	74	252	07m59s
0361-Feb-21	22:12:03	7043	170	-20270	94	T	t-	-0.9851	1.0394	74S	27W	9	857	02m07s
0361-Aug-17	06:38:38	7038	170	-20264	99	An	t-	0.9937	0.9481	74N	128W	5	-	03m12s
0362-Jan-12	23:01:59	7034	170	-20259	66	P	-t	1.0563	0.8745	68N	145W	0		
0362-Jul-08	05:17:47	7030	170	-20253	71	T	-t	-0.9479	1.0393	49S	129E	18	421	03m07s
0363-Jan-02	02:32:46	7025	170	-20247	76	A	-p	0.3869	0.9254	0S	173E	67	305	10m44s
0363-Jun-27	21:46:17	7020	170	-20241	81	T	-n	-0.1898	1.0804	13N	117W	79	264	07m24s
0363-Dec-22	01:35:04	7015	170	-20235	86	A	n-	-0.2938	0.9207	41S	176W	73	315	09m08s
0364-Jun-16	14:35:59	7011	169	-20229	91	T	p-	0.5609	1.0566	57N	19W	56	226	04m02s
0364-Dec-10	03:47:21	7006	169	-20223	96	A	t-	-0.9610	0.9479	78S	24E	15	722	03m11s
0365-May-07	15:35:30	7002	169	-20218	63	P	-t	-1.3401	0.3774	62S	28E	0		
0365-Jun-06	03:10:19	7001	169	-20217	101	P	t-	1.3762	0.3082	64N	9E	0		
0365-Oct-31	01:52:06	6997	169	-20212	68	P	-t	1.1449	0.7349	62N	121W	0		
0366-Apr-26	17:50:06	6992	169	-20206	73	A	-p	-0.6109	0.9430	21S	43W	52	260	06m38s
0366-Oct-20	17:43:18	6988	169	-20200	78	T	-p	0.4709	1.0464	14N	47W	62	173	03m56s
0367-Apr-15	18:38:13	6983	169	-20194	83	A	nn	0.1483	0.9591	18N	75W	81	150	04m24s
0367-Oct-10	07:55:36	6978	169	-20188	88	H	n-	-0.2247	1.0105	18S	81E	77	37	00m57s
0368-Apr-04	00:56:04	6973	169	-20182	93	A	t-	0.8898	0.9977	56N	147E	27	17	00m10s
0368-Sep-28	16:12:49	6969	168	-20176	98	As	p-	-0.9820	0.9459	60S	110W	10	-	03m47s
0369-Feb-23	05:26:21	6965	168	-20171	65	P	-t	-1.0299	0.9585	61S	121W	0		
0369-Aug-19	00:43:02	6960	168	-20165	70	P	-t	1.2257	0.5760	62N	46W	0		
0370-Feb-12	21:35:51	6955	168	-20159	75	T	-n	-0.3469	1.0425	32S	101W	70	151	03m23s
0370-Aug-08	03:22:37	6950	168	-20153	80	A	-p	0.4532	0.9765	41N	173E	63	94	02m09s

0371-Feb-02	10:08:32	6946	168	-20147	85	A	n-	0.3736	0.9889	4N	53E	68	42	01m10s
0371-Jul-28	13:16:37	6941	168	-20141	90	T	p-	-0.3208	1.0357	2N	4E	71	126	03m30s
0372-Jan-22	15:31:10	6936	168	-20135	95	P	t-	1.1242	0.7471	63N	66W	0		
0372-Jun-17	22:13:13	6932	168	-20130	62	Pe	-t	1.4602	0.1307	66N	45E	0		
0372-Jul-17	04:56:45	6931	168	-20129	100	P	t-	-1.0380	0.9496	64S	98E	0		
0372-Dec-11	20:13:48	6927	168	-20124	67	P	-t	-1.2319	0.5643	67S	80E	0		
0373-Jun-07	14:20:04	6923	167	-20118	72	T	-p	0.7600	1.0401	73N	8W	40	208	02m36s
0373-Dec-01	00:23:32	6918	167	-20112	77	A	-p	-0.4995	0.9732	52S	161W	60	111	02m22s
0374-May-28	01:03:51	6913	167	-20106	82	A	nn	-0.0036	0.9903	21N	169W	90	34	01m06s
0374-Nov-20	11:46:43	6908	167	-20100	87	T	n-	0.2077	1.0283	8S	31E	78	98	02m51s
0375-May-17	04:35:24	6904	167	-20094	92	A	p-	-0.7935	0.9459	33S	146E	37	327	06m26s
0375-Nov-10	03:13:13	6899	167	-20088	97	T	p-	0.8678	1.0388	42N	170E	29	262	03m07s
0376-Apr-05	15:04:51	6895	167	-20083	64	P	-t	1.2948	0.4569	72N	127W	0		
0376-May-05	05:09:22	6894	167	-20082	102	Pb	t-	-1.5323	0.0486	70S	166E	0		
0376-Sep-30	05:55:36	6890	167	-20077	69	P	-t	-1.1790	0.6635	72S	18E	0		
0377-Mar-25	23:22:10	6885	167	-20071	74	T	-p	0.4931	1.0184	30N	151W	60	72	01m41s
0377-Sep-19	12:13:34	6880	166	-20065	79	A	-p	-0.4958	0.9464	27S	14E	60	225	06m05s
0378-Mar-15	13:49:49	6876	166	-20059	84	T	n-	-0.2484	1.0606	16S	8E	76	205	05m21s
0378-Sep-08	12:37:07	6871	166	-20053	89	A	nn	0.2223	0.9322	18N	23E	77	259	08m35s
0379-Mar-05	06:24:12	6866	166	-20047	94	T	p-	-0.9525	1.0438	70S	171E	17	492	02m35s
0379-Aug-28	13:51:14	6861	166	-20041	99	A	t-	0.9365	0.9517	72N	55E	20	512	03m28s
0380-Jan-24	07:16:30	6857	166	-20036	66	P	-t	1.0721	0.8466	69N	79E	0		
0380-Jul-18	12:43:04	6853	166	-20030	71	P	-t	-1.0131	0.9871	68S	4E	0		
0381-Jan-12	10:30:42	6848	166	-20024	76	A	-p	0.3989	0.9256	2N	52E	66	305	10m40s
0381-Jul-08	05:16:57	6843	166	-20018	81	T	-n	-0.2611	1.0788	8N	129E	75	264	07m22s
0382-Jan-01	09:36:19	6838	165	-20012	86	A	n-	-0.2862	0.9228	40S	66E	73	305	08m59s
0382-Jun-27	21:55:24	6834	165	-20006	91	T	p-	0.4879	1.0538	53N	123W	61	204	04m03s
0382-Dec-21	12:10:42	6829	165	-20000	96	A	t-	-0.9556	0.9513	81S	118W	17	629	02m58s
0383-May-18	22:18:57	6825	165	-19995	63	P	-t	-1.4226	0.2326	63S	83W	0		
0383-Jun-17	10:03:51	6824	165	-19994	101	P	t-	1.3027	0.4416	65N	105W	0		
0383-Nov-11	10:37:03	6820	165	-19989	68	P	-t	1.1501	0.7251	62N	98E	0		
0384-May-07	00:18:43	6815	165	-19983	73	A	-p	-0.6939	0.9432	24S	141W	46	284	06m42s
0384-Oct-31	02:24:05	6810	165	-19977	78	T	-p	0.4830	1.0431	12N	179W	61	163	03m47s

0385-Apr-26	01:24:00	6806	165	-19971	83	A	nn	0.0734	0.9636	17N	176W	86	132	03m59s
0385-Oct-20	16:16:03	6801	165	-19965	88	H	n-	-0.2078	1.0052	22S	45W	78	18	00m28s
0386-Apr-15	08:15:27	6796	164	-19959	93	H	p-	0.8247	1.0055	55N	43E	34	33	00m23s
0386-Oct-10	00:02:07	6791	164	-19953	98	A	p-	-0.9584	0.9422	61S	136E	16	752	04m06s
0387-Mar-06	13:38:09	6787	164	-19948	65	P	-t	-1.0653	0.8926	61S	107E	0		
0387-Apr-04	21:52:03	6787	164	-19947	103	Pb	t-	1.5047	0.0531	61N	140E	0		
0387-Aug-30	07:43:01	6783	164	-19942	70	P	-t	1.2810	0.4823	61N	161W	0		
0388-Feb-24	05:51:49	6778	164	-19936	75	T	-n	-0.3779	1.0432	29S	136E	68	155	03m27s
0388-Aug-18	10:36:38	6773	164	-19930	80	A	-p	0.5111	0.9763	40N	66E	59	98	02m08s
0389-Feb-12	18:13:15	6768	164	-19924	85	A	n-	0.3492	0.9887	5N	70W	70	42	01m10s
0389-Aug-07	20:49:15	6763	164	-19918	90	T	n-	-0.2591	1.0366	3N	109W	75	127	03m28s
0390-Feb-01	23:20:46	6759	164	-19912	95	P	t-	1.1051	0.7795	62N	167E	0		
0390-Jul-28	12:34:48	6754	163	-19906	100	T	t-	-0.9733	1.0595	53S	12W	13	874	04m06s
0390-Dec-23	04:21:22	6750	163	-19901	67	P	-t	-1.2348	0.5596	65S	53W	0		
0391-Jun-18	21:32:09	6745	163	-19895	72	T	-t	0.8389	1.0346	80N	94W	33	216	02m06s
0391-Dec-12	08:54:56	6740	163	-19889	77	A	-p	-0.4990	0.9762	54S	75E	60	98	02m04s
0392-Jun-07	07:48:12	6736	163	-19883	82	A	nn	0.0800	0.9872	28N	90E	85	45	01m26s
0392-Nov-30	20:35:35	6731	163	-19877	87	T	n-	0.2061	1.0298	10S	102W	78	103	03m00s
0393-May-27	10:59:53	6726	163	-19871	92	A	p-	-0.7082	0.9471	24S	45E	45	276	06m50s
0393-Nov-20	12:03:28	6721	163	-19865	97	T	p-	0.8641	1.0373	39N	32E	30	250	03m05s
0394-Apr-16	22:03:45	6717	163	-19860	64	P	-t	1.3562	0.3490	71N	114E	0		
0394-May-16	11:41:46	6716	163	-19859	102	P	t-	-1.4504	0.1887	69S	55E	0		
0394-Oct-11	14:03:50	6712	162	-19854	69	P	-t	-1.2039	0.6181	72S	119W	0		
0395-Apr-06	06:54:54	6708	162	-19848	74	T	-p	0.5469	1.0240	38N	93E	57	97	02m04s
0395-Sep-30	19:48:25	6703	162	-19842	79	A	-p	-0.5301	0.9411	34S	103W	58	255	06m27s
0396-Mar-25	21:45:55	6698	162	-19836	84	T	n-	-0.2002	1.0653	9S	114W	78	218	05m50s
0396-Sep-18	19:53:27	6693	162	-19830	89	A	nn	0.1793	0.9297	11N	89W	80	267	09m07s
0397-Mar-15	14:27:40	6689	162	-19824	94	T	p-	-0.9132	1.0473	62S	30E	24	388	03m02s
0397-Sep-07	21:15:12	6684	162	-19818	99	A	t-	0.8877	0.9531	63N	76W	27	372	03m43s
0398-Feb-03	15:22:11	6680	162	-19813	66	P	-t	1.0941	0.8079	70N	55W	0		
0398-Jul-29	20:14:53	6675	162	-19807	71	P	-t	-1.0734	0.8729	69S	121W	0		
0399-Jan-23	18:21:29	6670	162	-19801	76	A	-p	0.4164	0.9263	5N	67W	65	304	10m25s
0399-Jul-19	12:51:28	6665	161	-19795	81	T	-n	-0.3289	1.0764	2N	14E	71	262	07m11s



0400-Jan-12	17:32:23	6661	161	-19789	86	A	n-	-0.2736	0.9257	38S	51W	74	291	08m44s
0400-Jul-08	05:15:51	6656	161	-19783	91	T	p-	0.4164	1.0502	48N	130E	65	183	04m00s
0400-Dec-31	20:31:54	6651	161	-19777	96	A	t-	-0.9476	0.9556	85S	87E	18	524	02m44s

5TH CENTURY CE

In the 5th century CE the total number of solar eclipses was 233 solar eclipses: 80 partial solar eclipses, 84 annular solar eclipses (83 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 67 total solar eclipses (67 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 2 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST										°	km
			ECLIPSE											
0401-May-29	04:57:40	6647	161	-19772	63	Pe	-t	-1.5077	0.0838	64S	168E	0		
0401-Jun-27	16:57:11	6646	161	-19771	101	P	t-	1.2293	0.5737	66N	141E	0		
0401-Nov-21	19:25:51	6642	161	-19766	68	P	-t	1.1527	0.7204	63N	44W	0		
0402-May-18	06:43:20	6637	161	-19760	73	A	-p	-0.7798	0.9428	29S	122E	39	331	06m44s
0402-Nov-11	11:10:20	6633	161	-19754	78	T	-p	0.4903	1.0401	10N	47E	61	153	03m39s
0403-May-07	08:04:23	6628	161	-19748	83	A	nn	-0.0069	0.9679	17N	85E	90	116	03m36s
0403-Nov-01	00:42:51	6623	160	-19742	88	H	n-	-0.1969	1.0001	25S	172W	79	1	00m01s
0404-Apr-25	15:29:21	6618	160	-19736	93	T	p-	0.7542	1.0127	55N	60W	41	66	00m55s
0404-Oct-20	07:58:38	6613	160	-19730	98	A	p-	-0.9411	0.9382	63S	16E	19	679	04m23s
0405-Mar-16	21:42:24	6610	160	-19725	65	P	-t	-1.1072	0.8136	61S	24W	0		

0405-Apr-15	05:32:21	6609	160	-19724	103	P	t-	1.4445	0.1666	61N	15E	0		
0405-Sep-09	14:53:20	6605	160	-19719	70	P	-t	1.3284	0.4025	61N	82E	0		
0406-Mar-06	14:00:48	6600	160	-19713	75	T	-p	-0.4146	1.0438	27S	13E	65	159	03m31s
0406-Aug-29	17:58:57	6595	160	-19707	80	A	-p	0.5631	0.9759	39N	43W	56	103	02m08s
0407-Feb-24	02:10:50	6590	160	-19701	85	A	n-	0.3196	0.9887	7N	170E	71	42	01m08s
0407-Aug-19	04:29:13	6586	160	-19695	90	T	n-	-0.2025	1.0371	2N	136E	78	127	03m24s
0408-Feb-13	07:01:26	6581	159	-19689	95	P	t-	1.0793	0.8236	62N	42E	0		
0408-Aug-07	20:19:24	6576	159	-19683	100	T	t-	-0.9139	1.0609	44S	126W	24	487	04m26s
0409-Jan-02	12:26:00	6572	159	-19678	67	P	-t	-1.2406	0.5501	64S	175E	0		
0409-Jun-29	04:46:10	6567	159	-19672	72	T	-t	0.9152	1.0279	82N	135W	23	239	01m35s
0409-Dec-22	17:24:38	6562	159	-19666	77	A	-p	-0.5008	0.9797	54S	47W	60	84	01m44s
0410-Jun-18	14:33:06	6558	159	-19660	82	A	nn	0.1622	0.9835	33N	11W	80	59	01m47s
0410-Dec-12	05:24:51	6553	159	-19654	87	T	n-	0.2042	1.0318	12S	125E	78	110	03m11s
0411-Jun-07	17:21:26	6548	159	-19648	92	A	p-	-0.6203	0.9476	16S	54W	52	246	07m08s
0411-Dec-01	20:56:14	6543	159	-19642	97	T	p-	0.8626	1.0363	38N	106W	30	242	03m04s
0412-Apr-27	04:56:20	6539	159	-19637	64	P	-t	1.4233	0.2298	70N	3W	0		
0412-May-26	18:11:10	6538	158	-19636	102	P	t-	-1.3645	0.3367	68S	55W	0		
0412-Oct-21	22:19:07	6534	158	-19631	69	P	-t	-1.2224	0.5847	71S	103E	0		
0413-Apr-16	14:20:42	6530	158	-19625	74	T	-p	0.6075	1.0291	46N	22W	52	124	02m20s
0413-Oct-11	03:32:18	6525	158	-19619	79	A	-p	-0.5565	0.9362	40S	139E	56	284	06m44s
0414-Apr-06	05:34:57	6520	158	-19613	84	T	n-	-0.1458	1.0696	1S	126E	82	229	06m16s
0414-Sep-30	03:18:49	6515	158	-19607	89	A	nn	0.1435	0.9274	5N	158E	82	275	09m35s
0415-Mar-26	22:23:08	6510	158	-19601	94	T	p-	-0.8677	1.0503	54S	100W	29	335	03m31s
0415-Sep-19	04:49:05	6506	158	-19595	99	A	p-	0.8461	0.9539	55N	160E	32	314	03m58s
0416-Feb-14	23:18:49	6502	158	-19590	66	P	-t	1.1228	0.7577	71N	172E	0		
0416-Aug-09	03:53:28	6497	158	-19584	71	P	-t	-1.1287	0.7679	70S	111E	0		
0416-Sep-07	13:26:24	6496	158	-19583	109	Pb	t-	1.5078	0.0636	72N	112E	0		
0417-Feb-03	02:05:15	6492	157	-19578	76	A	-p	0.4393	0.9274	9N	175E	64	302	09m59s
0417-Jul-29	20:30:55	6487	157	-19572	81	T	-n	-0.3927	1.0734	4S	103W	67	259	06m50s
0418-Jan-23	01:24:08	6482	157	-19566	86	A	n-	-0.2571	0.9291	34S	168W	75	275	08m26s
0418-Jul-19	12:39:34	6478	157	-19560	91	T	n-	0.3482	1.0459	42N	20E	69	163	03m52s
0419-Jan-12	04:51:18	6473	157	-19554	96	A	t-	-0.9374	0.9605	86S	109W	20	423	02m29s
0419-Jul-08	23:50:30	6468	157	-19548	101	P	t-	1.1566	0.7033	67N	26E	0		

0419-Dec-03	04:17:26	6464	157	-19543	68	P	-t	1.1535	0.7189	64N	172E	0		
0420-May-28	13:05:22	6459	157	-19537	73	A	-p	-0.8672	0.9415	37S	26E	30	430	06m38s
0420-Nov-21	19:59:03	6454	157	-19531	78	T	-p	0.4954	1.0377	8N	87W	60	145	03m33s
0421-May-17	14:43:49	6450	156	-19525	83	Am	nn	-0.0886	0.9717	15N	14W	85	102	03m17s
0421-Nov-11	09:13:35	6445	156	-19519	88	A	n-	-0.1903	0.9956	28S	61E	79	16	00m25s
0422-May-06	22:41:05	6440	156	-19513	93	T	p-	0.6807	1.0193	55N	162W	47	90	01m25s
0422-Oct-31	15:59:53	6435	156	-19507	98	A	p-	-0.9283	0.9344	66S	107W	21	659	04m37s
0423-Mar-28	05:39:13	6431	156	-19502	65	P	-t	-1.1554	0.7216	61S	152W	0		
0423-Apr-26	13:07:36	6430	156	-19501	103	P	t-	1.3797	0.2899	62N	108W	0		
0423-Sep-20	22:13:39	6427	156	-19496	70	P	-t	1.3679	0.3361	61N	37W	0		
0424-Mar-16	21:58:44	6422	156	-19490	75	T	-p	-0.4600	1.0441	25S	106W	62	164	03m34s
0424-Sep-09	01:33:10	6417	156	-19484	80	A	-p	0.6061	0.9755	37N	156W	52	108	02m10s
0425-Mar-06	09:56:52	6412	156	-19478	85	A	n-	0.2812	0.9887	9N	53E	74	41	01m07s
0425-Aug-29	12:18:49	6407	156	-19472	90	T	n-	-0.1535	1.0371	1N	18E	81	126	03m19s
0426-Feb-23	14:32:00	6403	155	-19466	95	P	t-	1.0457	0.8809	61N	80W	0		
0426-Aug-19	04:11:01	6398	155	-19460	100	T	p-	-0.8602	1.0604	40S	115E	30	382	04m27s
0427-Jan-13	20:28:26	6394	155	-19455	67	P	-t	-1.2487	0.5368	64S	44E	0		
0427-Jul-10	11:59:15	6389	155	-19449	72	T	-t	0.9912	1.0181	69N	167E	6	572	00m55s
0428-Jan-03	01:54:37	6384	155	-19443	77	A	-p	-0.5032	0.9838	53S	170W	60	66	01m22s
0428-Jun-28	21:16:02	6379	155	-19437	82	A	np	0.2452	0.9792	38N	110W	76	76	02m10s
0428-Dec-22	14:14:06	6375	155	-19431	87	T	n-	0.2020	1.0343	12S	8W	78	118	03m22s
0429-Jun-17	23:43:13	6370	155	-19425	92	A	p-	-0.5326	0.9475	9S	152W	58	228	07m19s
0429-Dec-12	05:50:11	6365	155	-19419	97	T	p-	0.8621	1.0356	36N	116E	30	237	03m02s
0430-May-08	11:47:07	6361	154	-19414	64	Pe	-t	1.4921	0.1065	70N	119W	0		
0430-Jun-07	00:41:21	6360	154	-19413	102	P	t-	-1.2781	0.4863	67S	164W	0		
0430-Nov-02	06:38:26	6356	154	-19408	69	P	-t	-1.2368	0.5589	70S	36W	0		
0431-Apr-27	21:43:40	6351	154	-19402	74	T	-p	0.6711	1.0337	55N	136W	48	153	02m31s
0431-Oct-22	11:21:56	6347	154	-19396	79	A	-p	-0.5772	0.9318	45S	20E	54	311	06m58s
0432-Apr-16	13:17:43	6342	154	-19390	84	T	nn	-0.0859	1.0734	6N	8E	85	239	06m37s
0432-Oct-10	10:53:35	6337	154	-19384	89	A	nn	0.1154	0.9254	1S	42E	83	283	10m00s
0433-Apr-06	06:11:03	6332	154	-19378	94	T	p-	-0.8164	1.0527	45S	134E	35	300	03m59s
0433-Sep-29	12:32:56	6327	154	-19372	99	A	p-	0.8119	0.9546	48N	38E	35	281	04m11s
0434-Feb-25	07:05:22	6323	154	-19367	66	P	-t	1.1587	0.6949	71N	41E	0		

0434-Aug-20	11:40:41	6319	154	-19361	71	P	-t	-1.1775	0.6754	71S	19W	0		
0434-Sep-18	21:26:43	6318	154	-19360	109	P	t-	1.4689	0.1350	72N	23W	0		
0435-Feb-14	09:39:21	6314	153	-19355	76	A	-p	0.4696	0.9289	15N	59E	62	300	09m26s
0435-Aug-10	04:15:53	6309	153	-19349	81	T	-p	-0.4515	1.0697	11S	138E	63	254	06m22s
0436-Feb-03	09:08:37	6304	153	-19343	86	A	nn	-0.2342	0.9332	30S	76E	76	257	08m03s
0436-Jul-29	20:07:21	6299	153	-19337	91	T	n-	0.2843	1.0409	35N	91W	73	143	03m37s
0437-Jan-22	13:04:38	6295	153	-19331	96	A	t-	-0.9217	0.9662	82S	81E	22	321	02m11s
0437-Jul-19	06:47:10	6290	153	-19325	101	P	t-	1.0874	0.8254	68N	90W	0		
0437-Dec-13	13:10:14	6286	153	-19320	68	P	-t	1.1532	0.7195	65N	29E	0		
0438-Jun-08	19:25:34	6281	153	-19314	73	A	-t	-0.9556	0.9388	49S	70W	17	782	06m18s
0438-Dec-03	04:50:26	6276	153	-19308	78	T	-p	0.4981	1.0357	7N	139E	60	138	03m27s
0439-May-28	21:21:10	6271	152	-19302	83	A	nn	-0.1727	0.9750	12N	113W	80	90	02m59s
0439-Nov-22	17:48:02	6267	152	-19296	88	A	nn	-0.1871	0.9916	31S	67W	79	30	00m48s
0440-May-17	05:49:18	6262	152	-19290	93	T	p-	0.6031	1.0253	54N	98E	53	107	01m54s
0440-Nov-11	00:06:47	6257	152	-19284	98	A	p-	-0.9206	0.9309	70S	128E	23	666	04m49s
0441-Apr-07	13:29:37	6253	152	-19279	65	P	-t	-1.2091	0.6184	61S	80E	0		
0441-May-06	20:39:28	6252	152	-19278	103	P	t-	1.3115	0.4207	62N	129E	0		
0441-Oct-01	05:43:17	6248	152	-19273	70	P	-t	1.4002	0.2820	61N	159W	0		
0442-Mar-28	05:50:02	6243	152	-19267	75	T	-p	-0.5105	1.0440	23S	135E	59	169	03m37s
0442-Sep-20	09:16:39	6239	152	-19261	80	A	-p	0.6423	0.9751	35N	88E	50	114	02m14s
0443-Mar-17	17:33:44	6234	152	-19255	85	A	nn	0.2360	0.9887	11N	62W	76	41	01m06s
0443-Sep-09	20:16:27	6229	152	-19249	90	T	n-	-0.1105	1.0368	1S	102W	84	124	03m14s
0444-Mar-05	21:52:56	6224	151	-19243	95	A+	t-	1.0046	0.9511	61N	160E	0		
0444-Aug-29	12:10:18	6219	151	-19237	100	T	p-	-0.8128	1.0590	39S	6W	35	326	04m19s
0445-Jan-24	04:23:58	6215	151	-19232	67	P	-t	-1.2629	0.5128	63S	84W	0		
0445-Jul-20	19:16:46	6211	151	-19226	72	P	-t	1.0628	0.8843	63N	56E	0		
0446-Jan-13	10:20:11	6206	151	-19220	77	A	-p	-0.5104	0.9884	51S	67E	59	47	00m58s
0446-Jul-10	04:00:42	6201	151	-19214	82	A	-p	0.3259	0.9745	41N	152E	71	97	02m33s
0447-Jan-02	23:00:41	6196	151	-19208	87	T	n-	0.1970	1.0373	12S	140W	79	128	03m35s
0447-Jun-29	06:05:44	6192	151	-19202	92	A	p-	-0.4450	0.9469	3S	110E	64	218	07m23s
0447-Dec-23	14:42:09	6187	151	-19196	97	T	p-	0.8604	1.0355	36N	21W	30	235	03m02s
0448-Jun-17	07:12:02	6182	150	-19190	102	P	t-	-1.1908	0.6383	66S	87E	0		
0448-Nov-12	15:02:54	6178	150	-19185	69	P	-t	-1.2464	0.5418	69S	176W	0		

0449-May-08	05:02:25	6173	150	-19179	74	T	-p	0.7390	1.0374	64N	111E	42	187	02m35s
0449-Nov-01	19:17:43	6168	150	-19173	79	A	-p	-0.5924	0.9280	51S	99W	53	335	07m09s
0450-Apr-27	20:55:14	6164	150	-19167	84	T	nn	-0.0212	1.0765	13N	109W	89	248	06m50s
0450-Oct-21	18:37:01	6159	150	-19161	89	A	nn	0.0941	0.9238	6S	76W	85	289	10m20s
0451-Apr-17	13:50:27	6154	150	-19155	94	T	p-	-0.7583	1.0545	37S	12E	40	274	04m27s
0451-Oct-10	20:26:50	6149	150	-19149	99	A	p-	0.7851	0.9551	42N	86W	38	262	04m24s
0452-Mar-07	14:42:08	6145	150	-19144	66	P	-t	1.2018	0.6194	72N	88W	0		
0452-Aug-30	19:35:59	6140	150	-19138	71	P	-t	-1.2201	0.5945	71S	152W	0		
0452-Sep-29	05:36:32	6140	150	-19137	109	P	t-	1.4370	0.1937	72N	160W	0		
0453-Feb-24	17:04:26	6136	149	-19132	76	A	-p	0.5070	0.9305	21N	56W	59	299	08m48s
0453-Aug-20	12:07:42	6131	149	-19126	81	T	-p	-0.5044	1.0656	17S	16E	60	247	05m50s
0454-Feb-13	16:47:39	6126	149	-19120	86	A	nn	-0.2064	0.9375	24S	39W	78	237	07m36s
0454-Aug-10	03:38:53	6121	149	-19114	91	T	n-	0.2244	1.0355	28N	155E	77	122	03m17s
0455-Feb-02	21:14:14	6117	149	-19108	96	A	t-	-0.9021	0.9723	76S	60W	25	233	01m52s
0455-Jul-30	13:46:47	6112	149	-19102	101	P	t-	1.0213	0.9404	69N	153E	0		
0455-Dec-24	22:01:30	6108	149	-19097	68	P	-t	1.1550	0.7165	66N	115W	0		
0456-Jan-23	08:46:17	6107	149	-19096	106	Pb	t-	-1.5333	0.0111	69S	126W	0		
0456-Jun-19	01:46:47	6103	149	-19091	73	P	-t	-1.0430	0.8890	66S	166W	0		
0456-Dec-13	13:41:16	6098	149	-19085	78	T	-p	0.5009	1.0342	6N	4E	60	133	03m23s
0457-Jun-08	04:00:57	6093	149	-19079	83	A	nn	-0.2558	0.9779	9N	147E	75	81	02m43s
0457-Dec-03	02:22:10	6089	148	-19073	88	A	nn	-0.1845	0.9882	33S	165E	79	42	01m09s
0458-May-28	12:58:17	6084	148	-19067	93	T	p-	0.5251	1.0305	52N	4W	58	121	02m21s
0458-Nov-22	08:16:14	6079	148	-19061	98	A	p-	-0.9156	0.9280	74S	1E	23	680	05m00s
0459-Apr-18	21:12:18	6075	148	-19056	65	P	-t	-1.2693	0.5023	61S	45W	0		
0459-May-18	04:06:54	6074	148	-19055	103	P	t-	1.2393	0.5601	63N	7E	0		
0459-Oct-12	13:22:57	6070	148	-19050	70	P	-t	1.4247	0.2412	61N	77E	0		
0460-Apr-07	13:31:01	6065	148	-19044	75	T	-p	-0.5690	1.0434	23S	20E	55	173	03m38s
0460-Sep-30	17:11:14	6061	148	-19038	80	A	-p	0.6701	0.9749	33N	32W	48	118	02m18s
0461-Mar-28	00:59:10	6056	148	-19032	85	A	nn	0.1821	0.9885	13N	174W	79	41	01m08s
0461-Sep-20	04:24:23	6051	148	-19026	90	T	nn	-0.0756	1.0364	3S	135E	86	123	03m09s
0462-Mar-17	05:03:49	6046	147	-19020	95	A	p-	0.9556	0.9323	56N	74E	17	851	05m24s
0462-Sep-09	20:16:17	6042	147	-19014	100	T	p-	-0.7710	1.0569	39S	128W	39	288	04m07s
0463-Feb-04	12:15:08	6038	147	-19009	67	P	-t	-1.2812	0.4818	62S	148E	0		

0463-Aug-01	02:36:28	6033	147	-19003	72	P	-t	1.1317	0.7555	63N	64W	0		
0463-Aug-30	12:11:27	6032	147	-19002	110	Pb	t-	-1.4960	0.0772	61S	51W	0		
0464-Jan-24	18:41:51	6028	147	-18997	77	A	-p	-0.5214	0.9935	48S	56W	58	26	00m32s
0464-Jul-20	10:47:15	6023	147	-18991	82	A	-p	0.4040	0.9693	43N	54E	66	120	02m57s
0465-Jan-13	07:44:30	6019	147	-18985	87	T	n-	0.1893	1.0407	11S	89E	79	139	03m49s
0465-Jul-09	12:31:37	6014	147	-18979	92	A	p-	-0.3604	0.9459	2N	13E	69	213	07m21s
0466-Jan-02	23:31:44	6009	147	-18973	97	T	p-	0.8570	1.0357	35N	158W	31	233	03m02s
0466-Jun-28	13:47:08	6004	147	-18967	102	P	t-	-1.1059	0.7868	65S	23W	0		
0466-Nov-23	23:29:25	6000	146	-18962	69	P	-t	-1.2536	0.5291	68S	45E	0		
0467-May-19	12:19:01	5995	146	-18956	74	T	-p	0.8093	1.0403	73N	2W	36	231	02m33s
0467-Nov-13	03:17:48	5991	146	-18950	79	A	-p	-0.6034	0.9248	55S	143E	53	356	07m17s
0468-May-08	04:28:45	5986	146	-18944	84	Tm	nn	0.0473	1.0789	20N	136E	87	255	06m56s
0468-Nov-01	02:27:10	5981	146	-18938	89	A	nn	0.0781	0.9227	11S	166E	86	293	10m34s
0469-Apr-27	21:24:06	5976	146	-18932	94	T	p-	-0.6959	1.0555	29S	107W	46	254	04m52s
0469-Oct-21	04:29:47	5972	146	-18926	99	A	p-	0.7647	0.9559	37N	148E	40	247	04m33s
0470-Mar-18	22:08:32	5968	146	-18921	66	P	-t	1.2522	0.5313	72N	146E	0		
0470-Apr-17	10:26:44	5967	146	-18920	104	Pb	t-	-1.4982	0.0866	71S	104E	0		
0470-Sep-11	03:39:28	5963	146	-18915	71	P	-t	-1.2565	0.5257	72S	72E	0		
0470-Oct-10	13:54:28	5962	146	-18914	109	P	t-	1.4111	0.2411	72N	61E	0		
0471-Mar-08	00:19:27	5958	146	-18909	76	A	-p	0.5521	0.9323	27N	168W	56	301	08m07s
0471-Aug-31	20:06:58	5953	145	-18903	81	T	-p	-0.5507	1.0611	24S	107W	56	239	05m15s
0472-Feb-25	00:16:25	5949	145	-18897	86	A	nn	-0.1697	0.9424	18S	153W	80	216	07m05s
0472-Aug-20	11:17:17	5944	145	-18891	91	T	nn	0.1711	1.0296	22N	38E	80	102	02m50s
0473-Feb-13	05:16:02	5939	145	-18885	96	A	p-	-0.8755	0.9790	69S	168E	28	156	01m29s
0473-Aug-09	20:51:38	5934	145	-18879	101	A	t-	0.9602	0.9654	78N	19W	16	464	02m13s
0474-Jan-04	06:50:26	5930	145	-18874	68	P	-t	1.1588	0.7097	67N	101E	0		
0474-Feb-02	17:15:48	5930	145	-18873	106	P	t-	-1.5146	0.0437	70S	93E	0		
0474-Jun-30	08:09:52	5926	145	-18868	73	P	-t	-1.1284	0.7427	67S	87E	0		
0474-Dec-24	22:31:40	5921	145	-18862	78	T	-p	0.5038	1.0332	7N	130W	60	129	03m20s
0475-Jun-19	10:40:10	5916	145	-18856	83	A	np	-0.3400	0.9802	4N	46E	70	75	02m29s
0475-Dec-14	10:57:31	5911	145	-18850	88	A	nn	-0.1836	0.9854	34S	38E	79	53	01m27s
0476-Jun-07	20:06:36	5907	144	-18844	93	T	p-	0.4458	1.0350	49N	106W	63	132	02m48s
0476-Dec-02	16:27:19	5902	144	-18838	98	A	p-	-0.9126	0.9256	78S	126W	24	695	05m09s

0477-Apr-29	04:50:10	5898	144	-18833	65	P	-t	-1.3331	0.3784	62S	169W	0		
0477-May-28	11:33:24	5897	144	-18832	103	P	t-	1.1661	0.7021	64N	114W	0		
0477-Oct-22	21:11:01	5893	144	-18827	70	P	-t	1.4424	0.2116	61N	50W	0		
0478-Apr-18	21:05:53	5888	144	-18821	75	T	-p	-0.6319	1.0421	24S	95W	51	178	03m36s
0478-Oct-12	01:13:35	5884	144	-18815	80	A	-p	0.6923	0.9749	31N	155W	46	121	02m21s
0479-Apr-08	08:16:30	5879	144	-18809	85	Am	nn	0.1225	0.9881	14N	77E	83	42	01m11s
0479-Oct-01	12:40:15	5874	144	-18803	90	T	nn	-0.0467	1.0358	6S	11E	87	121	03m06s
0480-Mar-27	12:04:07	5869	144	-18797	95	A	p-	0.8982	0.9359	54N	24W	26	531	05m16s
0480-Sep-20	04:30:50	5864	143	-18791	100	T	p-	-0.7365	1.0543	40S	107E	42	260	03m52s
0481-Feb-14	19:58:08	5861	143	-18786	67	P	-t	-1.3067	0.4381	62S	23E	0		
0481-Aug-11	10:01:51	5856	143	-18780	72	P	-t	1.1948	0.6385	62N	175E	0		
0481-Sep-09	20:08:00	5855	143	-18779	110	P	t-	-1.4590	0.1487	61S	180W	0		
0482-Feb-04	02:56:48	5851	143	-18774	77	A	-p	-0.5388	0.9989	45S	178W	57	4	00m05s
0482-Jul-31	17:38:37	5846	143	-18768	82	A	-p	0.4773	0.9639	44N	45W	61	148	03m23s
0483-Jan-24	16:22:21	5842	143	-18762	87	T	n-	0.1764	1.0446	9S	41W	80	151	04m03s
0483-Jul-20	19:00:54	5837	143	-18756	92	A	pn	-0.2783	0.9444	5N	85W	74	213	07m18s
0484-Jan-14	08:16:38	5832	143	-18750	97	T	p-	0.8500	1.0366	35N	67E	32	232	03m04s
0484-Jul-08	20:26:28	5827	143	-18744	102	P	t-	-1.0230	0.9319	64S	133W	0		
0484-Dec-04	07:56:53	5823	143	-18739	69	P	-t	-1.2594	0.5189	67S	94W	0		
0485-May-29	19:34:34	5819	142	-18733	74	T	-p	0.8813	1.0420	83N	118W	28	301	02m26s
0485-Nov-23	11:22:06	5814	142	-18727	79	A	-p	-0.6109	0.9223	59S	25E	52	372	07m23s
0486-May-19	11:58:14	5809	142	-18721	84	T	nn	0.1192	1.0806	27N	22E	83	262	06m54s
0486-Nov-12	10:24:01	5804	142	-18715	89	A	nn	0.0672	0.9221	15S	46E	86	295	10m43s
0487-May-09	04:51:17	5800	142	-18709	94	T	p-	-0.6284	1.0559	21S	137E	51	236	05m11s
0487-Nov-01	12:40:56	5795	142	-18703	99	A	p-	0.7506	0.9568	33N	22E	41	236	04m39s
0488-Mar-29	05:24:16	5791	142	-18698	66	P	-t	1.3101	0.4300	72N	22E	0		
0488-Apr-27	17:36:33	5790	142	-18697	104	P	t-	-1.4368	0.1982	70S	17W	0		
0488-Sep-21	11:52:10	5786	142	-18692	71	P	-t	-1.2857	0.4703	72S	66W	0		
0488-Oct-20	22:21:21	5785	142	-18691	109	P	t-	1.3922	0.2759	71N	81W	0		
0489-Mar-18	07:25:54	5782	142	-18686	76	A	-p	0.6037	0.9340	35N	82E	53	306	07m25s
0489-Sep-11	04:12:50	5777	142	-18680	81	T	-p	-0.5912	1.0564	30S	128E	54	229	04m40s
0490-Mar-07	07:39:11	5772	141	-18674	86	A	nn	-0.1275	0.9474	12S	94E	83	195	06m30s
0490-Aug-31	19:01:13	5767	141	-18668	91	T	nn	0.1233	1.0235	15N	79W	83	81	02m19s

0491-Feb-24	13:11:43	5763	141	-18662	96	A	p-	-0.8430	0.9860	62S	40E	32	92	01m02s
0491-Aug-21	04:01:28	5758	141	-18656	101	A	p-	0.9037	0.9621	71N	171W	25	323	02m44s
0492-Jan-15	15:35:12	5754	141	-18651	68	P	-t	1.1664	0.6959	68N	42W			0
0492-Feb-14	01:38:31	5753	141	-18650	106	P	t-	-1.4901	0.0874	71S	46W			0
0492-Jul-10	14:37:23	5749	141	-18645	73	P	-t	-1.2098	0.6034	68S	21W			0
0493-Jan-04	07:17:11	5744	141	-18639	78	T	-p	0.5103	1.0326	8N	96E	59	128	03m16s
0493-Jun-29	17:25:21	5740	141	-18633	83	A	-p	-0.4199	0.9819	1S	56W	65	71	02m16s
0493-Dec-24	19:29:48	5735	141	-18627	88	Am	nn	-0.1814	0.9831	34S	88W	79	61	01m43s
0494-Jun-19	03:17:00	5730	141	-18621	93	T	p-	0.3673	1.0388	45N	151E	68	140	03m14s
0494-Dec-14	00:37:40	5726	140	-18615	98	A	p-	-0.9097	0.9239	82S	111E	24	703	05m17s
0495-May-10	12:22:37	5722	140	-18610	65	P	-t	-1.4012	0.2460	63S	68E			0
0495-Jun-08	18:58:29	5721	140	-18609	103	P	t-	1.0915	0.8470	65N	124E			0
0495-Nov-03	05:07:03	5717	140	-18604	70	P	-t	1.4545	0.1914	62N	178W			0
0496-Apr-29	04:31:41	5712	140	-18598	75	T	-p	-0.7018	1.0400	26S	153E	45	185	03m29s
0496-Oct-22	09:26:15	5708	140	-18592	80	A	-p	0.7069	0.9753	29N	79E	45	122	02m23s
0497-Apr-18	15:24:03	5703	140	-18586	85	A	nn	0.0555	0.9873	14N	29W	87	45	01m18s
0497-Oct-11	21:04:30	5698	140	-18580	90	T	nn	-0.0244	1.0354	9S	116W	89	119	03m04s
0498-Apr-07	18:55:40	5693	140	-18574	95	A	p-	0.8338	0.9389	53N	121W	33	402	05m08s
0498-Oct-01	12:52:55	5689	140	-18568	100	T	p-	-0.7083	1.0515	42S	20W	45	238	03m37s
0499-Feb-26	03:34:12	5685	140	-18563	67	P	-t	-1.3381	0.3836	61S	101W			0
0499-Mar-27	19:05:40	5684	140	-18562	105	Pb	t-	1.5546	0.0157	61N	177W			0
0499-Aug-22	17:31:45	5680	139	-18557	72	P	-t	1.2531	0.5316	61N	53E			0
0499-Sep-21	04:11:32	5679	139	-18556	110	P	t-	-1.4282	0.2078	61S	50E			0
0500-Feb-15	11:06:13	5675	139	-18551	77	H	-p	-0.5615	1.0046	42S	61E	56	19	00m22s
0500-Aug-11	00:34:49	5670	139	-18545	82	A	-p	0.5457	0.9582	45N	146W	57	180	03m50s

## 6TH CENTURY CE

In the 6th century CE the total number of solar eclipses was 251 solar eclipses:

93 partial solar eclipses, 87 annular solar eclipses (86 central annular solar eclipses



with two limits, 0 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 65 total solar eclipses (65 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 6 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
	GREATEST		S									°	km	
	ECLIPSE													
0501-Feb-04	00:54:39	5666	139	-18539	87	T	n-	0.1585	1.0487	7S	169W	81	164	04m18s
0501-Jul-31	01:37:04	5661	139	-18533	92	A	nn	-0.2017	0.9427	7N	176E	78	216	07m14s
0502-Jan-24	16:57:06	5656	139	-18527	97	T	p-	0.8397	1.0378	35N	67W	33	230	03m06s
0502-Jul-20	03:11:24	5651	139	-18521	102	A	t-	-0.9435	0.9595	47S	132E	19	443	03m52s
0502-Dec-15	16:23:39	5647	139	-18516	69	P	-t	-1.2651	0.5090	66S	128E	0		
0503-Jun-10	02:50:52	5643	139	-18510	74	T	-t	0.9534	1.0420	84N	28W	17	483	02m13s
0503-Dec-04	19:26:57	5638	139	-18504	79	A	-p	-0.6172	0.9204	61S	91W	52	384	07m27s
0504-May-29	19:26:03	5633	138	-18498	84	T	-n	0.1926	1.0813	33N	90W	79	267	06m44s
0504-Nov-22	18:24:55	5628	138	-18492	89	A	nn	0.0593	0.9222	18S	75W	87	295	10m41s
0505-May-19	12:14:53	5623	138	-18486	94	T	p-	-0.5586	1.0553	14S	22E	56	220	05m23s
0505-Nov-11	20:57:30	5619	138	-18480	99	A	p-	0.7400	0.9582	29N	106W	42	225	04m39s
0506-Apr-09	12:30:39	5615	138	-18475	66	P	-t	1.3744	0.3175	72N	99W	0		
0506-May-09	00:40:00	5614	138	-18474	104	P	t-	-1.3710	0.3178	70S	136W	0		
0506-Oct-02	20:13:10	5610	138	-18469	71	P	-t	-1.3089	0.4268	72S	154E	0		
0506-Nov-01	06:54:55	5609	138	-18468	109	P	t-	1.3781	0.3018	70N	137E	0		
0507-Mar-29	14:20:43	5605	138	-18463	76	A	-p	0.6646	0.9356	43N	27W	48	318	06m42s
0507-Sep-22	12:26:54	5600	138	-18457	81	T	-p	-0.6246	1.0516	37S	1E	51	217	04m06s
0508-Mar-17	14:51:58	5596	138	-18451	86	A	nn	-0.0762	0.9525	5S	16W	86	174	05m52s
0508-Sep-11	02:52:52	5591	138	-18445	91	H3	nn	0.0827	1.0173	9N	160E	85	59	01m45s
0509-Mar-06	20:58:51	5586	137	-18439	96	A	p-	-0.8025	0.9933	55S	84W	36	39	00m32s
0509-Aug-31	11:18:41	5581	137	-18433	101	A	p-	0.8539	0.9579	63N	65E	31	294	03m22s
0510-Jan-26	00:15:28	5577	137	-18428	68	P	-t	1.1777	0.6748	69N	175E	0		

0510-Feb-24	09:54:37	5577	137	-18427	106	P	t-	-1.4601	0.1418	71S	176E	0		
0510-Jul-21	21:08:23	5573	137	-18422	73	P	-t	-1.2881	0.4695	69S	131W	0		
0511-Jan-15	15:59:54	5568	137	-18416	78	T	-p	0.5188	1.0323	10N	36W	59	128	03m14s
0511-Jul-11	00:13:36	5563	137	-18410	83	A	-p	-0.4978	0.9831	8S	161W	60	69	02m05s
0512-Jan-05	03:58:52	5558	137	-18404	88	A	nn	-0.1770	0.9815	33S	146E	80	67	01m55s
0512-Jun-29	10:30:01	5554	137	-18398	93	T	n-	0.2902	1.0418	40N	45E	73	146	03m37s
0512-Dec-24	08:46:45	5549	137	-18392	98	A	p-	-0.9063	0.9228	87S	2E	25	703	05m24s
0513-May-20	19:52:38	5545	137	-18387	65	Pe	-t	-1.4713	0.1097	63S	54W	0		
0513-Jun-19	02:24:54	5544	137	-18386	103	P	t-	1.0177	0.9906	66N	2E	0		
0513-Nov-13	13:08:06	5540	136	-18381	70	P	-t	1.4629	0.1772	63N	52E	0		
0514-May-10	11:53:22	5535	136	-18375	75	T	-p	-0.7743	1.0371	30S	42E	39	194	03m16s
0514-Nov-02	17:45:08	5531	136	-18369	80	A	-p	0.7172	0.9760	27N	48W	44	120	02m23s
0515-Apr-29	22:23:27	5526	136	-18363	85	A	nn	-0.0173	0.9861	14N	134W	89	49	01m28s
0515-Oct-23	05:36:03	5521	136	-18357	90	T	nn	-0.0077	1.0351	12S	115E	89	118	03m04s
0516-Apr-18	01:38:44	5516	136	-18351	95	A	p-	0.7629	0.9415	53N	143E	40	329	05m01s
0516-Oct-11	21:22:12	5512	136	-18345	100	T	p-	-0.6865	1.0487	45S	148W	46	220	03m23s
0517-Mar-08	11:01:41	5508	136	-18340	67	P	-t	-1.3769	0.3158	61S	138E	0		
0517-Apr-07	01:58:53	5507	136	-18339	105	P	t-	1.4895	0.1251	61N	70E	0		
0517-Sep-02	01:09:19	5503	136	-18334	72	P	-t	1.3042	0.4390	61N	71W	0		
0517-Oct-01	12:22:38	5502	136	-18333	110	P	t-	-1.4043	0.2534	61S	82W	0		
0518-Feb-25	19:08:12	5498	136	-18328	77	H	-p	-0.5911	1.0104	40S	60W	54	44	00m50s
0518-Aug-22	07:37:02	5493	135	-18322	82	A	-p	0.6083	0.9524	44N	111E	52	216	04m21s
0519-Feb-15	09:19:45	5489	135	-18316	87	T	n-	0.1343	1.0530	5S	64E	82	177	04m33s
0519-Aug-11	08:20:08	5484	135	-18310	92	A	nn	-0.1305	0.9406	8N	75E	83	222	07m14s
0520-Feb-05	01:29:04	5479	135	-18304	97	T	p-	0.8228	1.0395	35N	161E	34	228	03m10s
0520-Jul-30	10:04:17	5474	135	-18298	102	A	t-	-0.8694	0.9626	38S	30E	29	268	03m45s
0520-Dec-26	00:48:22	5470	135	-18293	69	P	-t	-1.2720	0.4971	65S	9W	0		
0521-Jun-20	10:08:33	5466	135	-18287	74	P	-t	1.0247	0.9672	66N	143W	0		
0521-Dec-15	03:32:02	5461	135	-18281	79	A	-p	-0.6229	0.9193	62S	155E	51	393	07m28s
0522-Jun-10	02:52:23	5456	135	-18275	84	T	-n	0.2674	1.0812	39N	159E	74	272	06m28s
0522-Dec-04	02:29:42	5451	135	-18269	89	A	nn	0.0544	0.9229	20S	164E	87	292	10m31s
0523-May-30	19:32:57	5447	134	-18263	94	T	p-	-0.4848	1.0541	7S	90W	61	204	05m25s
0523-Nov-23	05:20:18	5442	134	-18257	99	A	p-	0.7339	0.9601	26N	125E	43	213	04m33s

0524-Apr-19	19:27:56	5438	134	-18252	66	P	-t	1.4450	0.1942	71N	142E	0				
0524-May-19	07:37:15	5437	134	-18251	104	P	t-	-1.3007	0.4450	69S	107E	0				
0524-Oct-13	04:41:48	5433	134	-18246	71	P	-t	-1.3263	0.3941	71S	12E	0				
0524-Nov-11	15:34:00	5432	134	-18245	109	P	t-	1.3681	0.3199	69N	6W	0				
0525-Apr-08	21:08:34	5429	134	-18240	76	A	-p	0.7308	0.9369	52N	134W	43	342	06m01s		
0525-Oct-02	20:48:02	5424	134	-18234	81	T	-p	-0.6521	1.0469	43S	128W	49	205	03m35s		
0526-Mar-28	21:59:19	5419	134	-18228	86	A	nn	-0.0201	0.9578	3N	126W	89	154	05m11s		
0526-Sep-22	10:50:08	5414	134	-18222	91	H	nn	0.0477	1.0111	2N	39E	87	38	01m08s		
0527-Mar-18	04:40:15	5410	134	-18216	96	H	p-	-0.7565	1.0007	47S	154E	41	3	00m03s		
0527-Sep-11	18:42:47	5405	134	-18210	101	A	p-	0.8107	0.9532	55N	54W	36	290	04m05s		
0528-Feb-06	08:48:11	5401	134	-18205	68	P	-t	1.1954	0.6419	70N	34E	0				
0528-Mar-06	18:02:17	5400	133	-18204	106	P	t-	-1.4232	0.2099	72S	39E	0				
0528-Aug-01	03:47:32	5396	133	-18199	73	P	-t	-1.3594	0.3478	70S	116E	0				
0528-Aug-30	20:01:23	5395	133	-18198	111	Pb	t-	1.5570	0.0163	71N	18E	0				
0529-Jan-26	00:35:22	5391	133	-18193	78	T	-p	0.5326	1.0323	14N	168W	58	129	03m10s		
0529-Jul-21	07:09:33	5387	133	-18187	83	A	-p	-0.5700	0.9838	14S	92E	55	70	01m56s		
0530-Jan-15	12:21:22	5382	133	-18181	88	A	nn	-0.1683	0.9802	31S	22E	80	71	02m05s		
0530-Jul-10	17:47:59	5377	133	-18175	93	T	n-	0.2167	1.0440	35N	63W	77	151	03m57s		
0531-Jan-04	16:51:08	5373	133	-18169	98	A	p-	-0.8997	0.9225	87S	25W	25	682	05m32s		
0531-Jun-30	09:51:48	5368	133	-18163	103	T	t-	0.9441	1.0665	85N	106W	19	680	03m23s		
0531-Nov-24	21:14:52	5364	133	-18158	70	P	-t	1.4670	0.1700	64N	80W	0				
0532-May-20	19:08:38	5359	133	-18152	75	T	-t	-0.8509	1.0330	35S	68W	31	210	02m53s		
0532-Nov-13	02:10:54	5354	133	-18146	80	A	-p	0.7223	0.9774	25N	178W	44	115	02m19s		
0533-May-10	05:15:43	5350	132	-18140	85	A	nn	-0.0949	0.9844	13N	124E	85	56	01m43s		
0533-Nov-02	14:15:07	5345	132	-18134	90	T	nn	0.0027	1.0350	16S	15W	90	118	03m06s		
0534-Apr-29	08:14:02	5340	132	-18128	95	A	p-	0.6857	0.9438	53N	50E	46	282	04m58s		
0534-Oct-23	05:58:15	5336	132	-18122	100	T	p-	-0.6705	1.0459	48S	83E	48	204	03m09s		
0535-Mar-19	18:22:45	5332	132	-18117	67	P	-t	-1.4212	0.2374	61S	18E	0				
0535-Apr-18	08:45:43	5331	132	-18116	105	P	t-	1.4183	0.2458	61N	41W	0				
0535-Sep-13	08:53:19	5327	132	-18111	72	P	-t	1.3492	0.3587	61N	164E	0				
0535-Oct-12	20:40:50	5326	132	-18110	110	P	t-	-1.3866	0.2872	61S	144E	0				
0536-Mar-08	03:03:03	5322	132	-18105	77	T	-p	-0.6275	1.0162	37S	178W	51	70	01m18s		
0536-Sep-01	14:46:40	5317	132	-18099	82	A	-p	0.6639	0.9466	43N	5E	48	258	04m54s		

0537-Feb-25	17:38:30	5313	132	-18093	87	T	n-	0.1043	1.0574	3S	62W	84	190	04m49s
0537-Aug-21	15:10:41	5308	132	-18087	92	A	nn	-0.0654	0.9384	8N	27W	86	229	07m17s
0538-Feb-15	09:55:04	5303	131	-18081	97	T	p-	0.8013	1.0412	36N	32E	37	226	03m14s
0538-Aug-10	17:05:04	5299	131	-18075	102	A	p-	-0.8006	0.9646	33S	76W	37	208	03m35s
0539-Jan-06	09:08:35	5295	131	-18070	69	P	-t	-1.2817	0.4805	64S	145W	0		
0539-Jul-01	17:28:28	5290	131	-18064	74	P	-t	1.0947	0.8347	65N	96E	0		
0539-Jul-31	01:58:53	5289	131	-18063	112	Pb	t-	-1.4925	0.0887	63S	123E	0		
0539-Dec-26	11:34:29	5285	131	-18058	79	A	-p	-0.6304	0.9188	62S	41E	51	398	07m26s
0540-Jun-20	10:19:48	5281	131	-18052	84	T	-n	0.3413	1.0801	44N	49E	70	275	06m07s
0540-Dec-14	10:33:50	5276	131	-18046	89	A	nn	0.0483	0.9243	21S	43E	87	286	10m10s
0541-Jun-10	02:50:18	5271	131	-18040	94	T	p-	-0.4109	1.0519	1S	158E	66	188	05m17s
0541-Dec-03	13:45:43	5267	131	-18034	99	A	p-	0.7289	0.9625	24N	5W	43	199	04m19s
0542-May-01	02:16:48	5263	131	-18029	66	Pe	-t	1.5211	0.0617	70N	26E	0		
0542-May-30	14:29:25	5262	131	-18028	104	P	t-	-1.2268	0.5780	68S	9W	0		
0542-Oct-24	13:17:29	5258	130	-18023	71	P	-t	-1.3385	0.3713	71S	131W	0		
0542-Nov-23	00:17:27	5257	130	-18022	109	P	t-	1.3613	0.3323	68N	149W	0		
0543-Apr-20	03:47:19	5253	130	-18017	76	A	-p	0.8043	0.9378	62N	118E	36	389	05m23s
0543-Oct-14	05:17:00	5248	130	-18011	81	T	-p	-0.6725	1.0424	49S	103E	47	191	03m07s
0544-Apr-08	04:57:34	5244	130	-18005	86	A	nn	0.0444	0.9629	10N	127E	87	134	04m29s
0544-Oct-02	18:55:54	5239	130	-17999	91	H	nn	0.0206	1.0050	4S	84W	89	17	00m31s
0545-Mar-28	12:14:29	5234	130	-17993	96	H	p-	-0.7036	1.0079	39S	35E	45	38	00m42s
0545-Sep-22	02:13:49	5230	130	-17987	101	A	p-	0.7737	0.9485	47N	173W	39	296	04m53s
0546-Feb-16	17:14:58	5226	130	-17982	68	P	-t	1.2180	0.5991	71N	107W	0		
0546-Mar-18	02:03:35	5225	130	-17981	106	P	t-	-1.3809	0.2890	72S	96W	0		
0546-Aug-12	10:33:19	5221	130	-17976	73	P	-t	-1.4252	0.2359	70S	2E	0		
0546-Sep-11	03:08:12	5220	130	-17975	111	P	t-	1.5086	0.0993	72N	104W	0		
0547-Feb-06	09:04:35	5216	130	-17970	78	T	-p	0.5515	1.0325	18N	62E	56	131	03m07s
0547-Aug-01	14:11:20	5212	130	-17964	83	A	-p	-0.6383	0.9840	21S	17W	50	73	01m48s
0548-Jan-26	20:38:07	5207	129	-17958	88	A	nn	-0.1554	0.9794	27S	102W	81	74	02m12s
0548-Jul-21	01:11:23	5202	129	-17952	93	T	n-	0.1469	1.0455	29N	174W	81	153	04m12s
0549-Jan-15	00:50:18	5198	129	-17946	98	A	p-	-0.8892	0.9228	82S	128W	27	646	05m40s
0549-Jul-10	17:23:02	5193	129	-17940	103	T	t-	0.8739	1.0688	83N	39W	29	468	03m48s
0549-Dec-05	05:24:23	5189	129	-17935	70	P	-t	1.4692	0.1657	64N	147E	0		

0550-Jan-04	00:03:56	5188	129	-17934	108	Pb	t-	-1.5675	0.0066	67S	20E	0		
0550-Jun-01	02:20:54	5184	129	-17929	75	T	-t	-0.9292	1.0276	44S	177W	21	254	02m18s
0550-Nov-24	10:40:50	5180	129	-17923	80	A	-p	0.7248	0.9793	24N	52E	43	106	02m11s
0551-May-21	12:02:52	5175	129	-17917	85	A	nn	-0.1756	0.9822	11N	22E	80	64	02m03s
0551-Nov-13	22:58:41	5170	129	-17911	90	T	nn	0.0099	1.0354	18S	146W	90	119	03m10s
0552-May-09	14:43:38	5166	129	-17905	95	A	p-	0.6038	0.9455	52N	42W	53	250	05m00s
0552-Nov-02	14:40:15	5161	128	-17899	100	T	p-	-0.6598	1.0433	52S	47W	48	191	02m57s
0553-Mar-30	01:36:41	5157	128	-17894	67	P	-t	-1.4719	0.1467	61S	100W	0		
0553-Apr-28	15:27:55	5156	128	-17893	105	P	t-	1.3422	0.3762	62N	151W	0		
0553-Sep-23	16:44:07	5152	128	-17888	72	P	-t	1.3879	0.2905	61N	37E	0		
0553-Oct-23	05:04:18	5152	128	-17887	110	P	t-	-1.3738	0.3116	62S	8E	0		
0554-Mar-19	10:50:36	5148	128	-17882	77	T	-p	-0.6707	1.0217	36S	65E	48	98	01m44s
0554-Sep-12	22:03:58	5143	128	-17876	82	A	-p	0.7126	0.9409	42N	103W	44	304	05m30s
0555-Mar-09	01:47:48	5138	128	-17870	87	T	nn	0.0663	1.0618	1S	175E	86	203	05m05s
0555-Sep-01	22:10:36	5134	128	-17864	92	A	nn	-0.0077	0.9360	7N	132W	90	238	07m25s
0556-Feb-26	18:11:18	5129	128	-17858	97	T	p-	0.7722	1.0433	36N	94W	39	222	03m19s
0556-Aug-21	00:15:36	5124	128	-17852	102	A	p-	-0.7388	0.9659	31S	175E	42	177	03m24s
0557-Jan-16	17:22:32	5120	128	-17847	69	P	-t	-1.2958	0.4560	63S	82E	0		
0557-Feb-15	07:19:19	5120	128	-17846	107	Pb	t-	1.5321	0.0299	62N	29E	0		
0557-Jul-12	00:53:01	5116	127	-17841	74	P	-t	1.1615	0.7077	64N	25W	0		
0557-Aug-10	09:28:32	5115	127	-17840	112	P	t-	-1.4289	0.2064	62S	1E	0		
0558-Jan-05	19:34:35	5111	127	-17835	79	A	-p	-0.6397	0.9189	61S	72W	50	400	07m23s
0558-Jul-01	17:47:03	5106	127	-17829	84	T	-p	0.4152	1.0783	47N	59W	65	278	05m45s
0558-Dec-25	18:39:10	5102	127	-17823	89	A	nn	0.0428	0.9263	21S	78W	88	278	09m41s
0559-Jun-21	10:05:22	5097	127	-17817	94	T	n-	-0.3355	1.0490	4N	48E	70	173	04m59s
0559-Dec-14	22:13:13	5092	127	-17811	99	A	p-	0.7251	0.9655	23N	135W	43	181	03m58s
0560-Jun-09	21:18:46	5088	127	-17805	104	P	t-	-1.1513	0.7132	67S	123W	0		
0560-Nov-03	21:59:38	5084	127	-17800	71	P	-t	-1.3460	0.3572	70S	85E	0		
0560-Dec-03	09:04:01	5083	127	-17799	109	P	t-	1.3565	0.3410	67N	67E	0		
0561-Apr-30	10:21:28	5079	127	-17794	76	A	-p	0.8810	0.9379	73N	4E	28	491	04m48s
0561-Oct-24	13:50:50	5074	127	-17788	81	T	-p	-0.6887	1.0381	54S	27W	46	176	02m43s
0562-Apr-19	11:52:21	5070	127	-17782	86	Am	nn	0.1124	0.9678	18N	21E	83	117	03m47s
0562-Oct-14	03:07:16	5065	126	-17776	91	A	nn	-0.0009	0.9992	9S	151E	90	3	00m05s

0563-Apr-08	19:42:17	5060	126	-17770	96	T	p-	-0.6445	1.0151	31S	82W	50	67	01m25s
0563-Oct-03	09:52:41	5056	126	-17764	101	A	p-	0.7439	0.9438	41N	67E	42	307	05m44s
0564-Feb-28	01:33:08	5052	126	-17759	68	P	-t	1.2480	0.5421	71N	114E	0		
0564-Mar-28	09:57:05	5051	126	-17758	106	P	t-	-1.3318	0.3820	72S	131E	0		
0564-Aug-22	17:29:08	5047	126	-17753	73	P	-t	-1.4831	0.1378	71S	116W	0		
0564-Sep-21	10:24:46	5046	126	-17752	111	P	t-	1.4676	0.1692	72N	132E	0		
0565-Feb-16	17:24:29	5043	126	-17747	78	T	-p	0.5776	1.0327	23N	66W	55	134	03m02s
0565-Aug-11	21:23:31	5038	126	-17741	83	A	-p	-0.6987	0.9839	29S	129W	45	79	01m42s
0566-Feb-06	04:46:08	5033	126	-17735	88	A	nn	-0.1362	0.9790	23S	136E	82	75	02m17s
0566-Aug-01	08:40:53	5029	126	-17729	93	T	nn	0.0815	1.0464	23N	73E	85	155	04m22s
0567-Jan-26	08:42:20	5024	126	-17723	98	A	p-	-0.8735	0.9238	76S	112E	29	596	05m50s
0567-Jul-22	00:57:50	5019	125	-17717	103	T	p-	0.8069	1.0692	73N	153W	36	385	04m07s
0567-Dec-16	13:35:13	5015	125	-17712	70	P	-t	1.4707	0.1623	65N	14E	0		
0568-Jan-15	07:57:49	5015	125	-17711	108	P	t-	-1.5539	0.0279	68S	111W	0		
0568-Jun-11	09:29:54	5011	125	-17706	75	P	-t	-1.0091	0.9869	65S	80E	0		
0568-Dec-04	19:14:50	5006	125	-17700	80	A	-p	0.7244	0.9818	23N	80W	43	93	01m57s
0569-May-31	18:45:08	5002	125	-17694	85	A	-p	-0.2595	0.9794	8N	78W	75	76	02m29s
0569-Nov-24	07:46:35	4997	125	-17688	90	T	nn	0.0139	1.0361	21S	82E	89	121	03m17s
0570-May-20	21:08:23	4992	125	-17682	95	A	p-	0.5180	0.9470	50N	132W	59	227	05m06s
0570-Nov-13	23:27:17	4988	125	-17676	100	T	p-	-0.6535	1.0409	56S	178W	49	180	02m46s
0571-Apr-10	08:43:32	4984	125	-17671	67	Pe	-t	-1.5287	0.0444	61S	144E	0		
0571-May-09	22:04:34	4983	125	-17670	105	P	t-	1.2605	0.5174	62N	100E	0		
0571-Oct-05	00:42:02	4979	125	-17665	72	P	-t	1.4199	0.2350	61N	92W	0		
0571-Nov-03	13:33:52	4978	125	-17664	110	P	t-	-1.3666	0.3255	62S	129W	0		
0572-Mar-29	18:31:59	4974	125	-17659	77	T	-p	-0.7196	1.0270	35S	51W	44	129	02m10s
0572-Sep-23	05:28:43	4970	124	-17653	82	A	-p	0.7543	0.9354	41N	146E	41	355	06m08s
0573-Mar-19	09:51:05	4965	124	-17647	87	Tm	nn	0.0229	1.0659	1N	54E	89	215	05m22s
0573-Sep-12	05:19:44	4960	124	-17641	92	A	nn	0.0424	0.9338	6N	121E	88	247	07m36s
0574-Mar-09	02:20:34	4956	124	-17635	97	T	p-	0.7377	1.0452	37N	142E	42	218	03m23s
0574-Sep-01	07:34:56	4951	124	-17629	102	A	p-	-0.6832	0.9668	30S	65E	47	160	03m15s
0575-Jan-28	01:29:52	4947	124	-17624	69	P	-t	-1.3146	0.4236	62S	50W	0		
0575-Feb-26	15:18:23	4947	124	-17623	107	P	t-	1.5068	0.0755	61N	101W	0		
0575-Jul-23	08:22:52	4943	124	-17618	74	P	-t	1.2246	0.5873	63N	148W	0		

0575-Aug-21	17:06:43	4942	124	-17617	112	P	t-	-1.3711	0.3135	61S	123W	0		
0576-Jan-17	03:27:30	4938	124	-17612	79	A	-p	-0.6546	0.9196	58S	174E	49	402	07m17s
0576-Jul-12	01:18:35	4933	124	-17606	84	T	-p	0.4855	1.0755	50N	167W	61	280	05m21s
0577-Jan-05	02:40:54	4929	124	-17600	89	A	nn	0.0335	0.9290	21S	162E	88	266	09m03s
0577-Jul-01	17:21:42	4924	123	-17594	94	T	n-	-0.2619	1.0453	8N	62W	75	156	04m33s
0577-Dec-25	06:39:41	4920	123	-17588	99	A	p-	0.7194	0.9691	22N	95E	44	160	03m30s
0578-Jun-21	04:06:22	4915	123	-17582	104	P	t-	-1.0746	0.8493	66S	124E	0		
0578-Nov-15	06:46:43	4911	123	-17577	71	P	-t	-1.3500	0.3498	69S	60W	0		
0578-Dec-14	17:51:22	4910	123	-17576	109	P	t-	1.3522	0.3486	66N	76W	0		
0579-May-11	16:47:56	4906	123	-17571	76	A	-t	0.9637	0.9366	80N	163W	15	924	04m15s
0579-Nov-04	22:31:36	4902	123	-17565	81	T	-p	-0.6990	1.0344	59S	157W	45	162	02m24s
0580-Apr-29	18:40:59	4897	123	-17559	86	A	nn	0.1865	0.9724	26N	84W	79	101	03m08s
0580-Oct-24	11:25:24	4892	123	-17553	91	A	nn	-0.0162	0.9938	14S	25E	89	22	00m40s
0581-Apr-19	03:05:03	4888	123	-17547	96	T	p-	-0.5801	1.0218	23S	163E	54	91	02m09s
0581-Oct-13	17:39:14	4883	123	-17541	101	A	p-	0.7206	0.9393	35N	53W	44	321	06m38s
0582-Mar-10	09:44:34	4879	123	-17536	68	P	-t	1.2836	0.4739	72N	23W	0		
0582-Apr-08	17:44:27	4879	123	-17535	106	P	t-	-1.2773	0.4860	71S	1W	0		
0582-Sep-03	00:33:20	4875	122	-17530	73	Pe	-t	-1.5344	0.0513	72S	124E	0		
0582-Oct-02	17:50:11	4874	122	-17529	111	P	t-	1.4333	0.2275	72N	6E	0		
0583-Feb-28	01:37:20	4870	122	-17524	78	T	-p	0.6091	1.0329	29N	168E	52	139	02m55s
0583-Aug-23	04:44:14	4865	122	-17518	83	A	-p	-0.7528	0.9834	36S	115E	41	89	01m38s
0584-Feb-17	12:45:17	4861	122	-17512	88	A	nn	-0.1106	0.9788	18S	15E	84	76	02m21s
0584-Aug-11	16:18:27	4856	122	-17506	93	T	nn	0.0225	1.0467	16N	43W	89	155	04m27s
0585-Feb-05	16:27:31	4852	122	-17500	98	A	p-	-0.8529	0.9253	70S	9W	31	541	06m01s
0585-Aug-01	08:37:45	4847	122	-17494	103	T	p-	0.7441	1.0687	65N	90E	42	336	04m22s
0585-Dec-26	21:45:18	4843	122	-17489	70	P	-t	1.4732	0.1571	67N	120W	0		
0586-Jan-25	15:47:03	4842	122	-17488	108	P	t-	-1.5362	0.0558	69S	119E	0		
0586-Jun-22	16:38:23	4839	122	-17483	75	P	-t	-1.0882	0.8381	66S	38W	0		
0586-Jul-22	01:07:10	4838	122	-17482	113	Pb	t-	1.4881	0.0867	69N	15W	0		
0586-Dec-16	03:49:13	4834	122	-17477	80	A	-p	0.7246	0.9848	23N	148E	43	78	01m38s
0587-Jun-12	01:24:20	4829	122	-17471	85	A	-p	-0.3450	0.9761	3N	179W	70	91	03m01s
0587-Dec-05	16:36:20	4825	121	-17465	90	T	nn	0.0166	1.0373	22S	50W	89	125	03m26s
0588-May-31	03:31:01	4820	121	-17459	95	A	p-	0.4304	0.9478	47N	137E	64	212	05m18s

0588-Nov-24	08:16:18	4815	121	-17453	100	T	p-	-0.6491	1.0390	59S	53E	49	172	02m38s
0589-May-20	04:40:10	4811	121	-17447	105	P	t-	1.1768	0.6631	63N	9W	0		
0589-Oct-15	08:47:00	4807	121	-17442	72	P	-t	1.4452	0.1919	61N	137E	0		
0589-Nov-13	22:07:23	4806	121	-17441	110	P	t-	-1.3635	0.3318	63S	93E	0		
0590-Apr-10	02:06:30	4802	121	-17436	77	T	-p	-0.7751	1.0318	36S	165W	39	166	02m33s
0590-Oct-04	13:01:50	4798	121	-17430	82	A	-p	0.7886	0.9303	39N	31E	38	411	06m50s
0591-Mar-30	17:45:41	4793	121	-17424	87	T	nn	-0.0280	1.0697	3N	65W	88	227	05m41s
0591-Sep-23	12:39:40	4789	121	-17418	92	Am	nn	0.0842	0.9317	3N	10E	85	256	07m51s
0592-Mar-19	10:19:18	4784	121	-17412	97	T	p-	0.6949	1.0470	38N	22E	46	213	03m29s
0592-Sep-11	15:05:54	4779	120	-17406	102	A	p-	-0.6361	0.9673	31S	49W	50	149	03m07s
0593-Feb-07	09:29:08	4776	120	-17401	69	P	-t	-1.3395	0.3806	62S	179W	0		
0593-Mar-08	23:07:46	4775	120	-17400	107	P	t-	1.4743	0.1339	61N	133E	0		
0593-Aug-02	15:58:13	4771	120	-17395	74	P	-t	1.2838	0.4745	62N	88E	0		
0593-Sep-01	00:53:07	4770	120	-17394	112	P	t-	-1.3191	0.4099	61S	111E	0		
0594-Jan-27	11:15:26	4766	120	-17389	79	A	-p	-0.6734	0.9207	56S	61E	47	403	07m10s
0594-Jul-23	08:52:38	4762	120	-17383	84	T	-p	0.5536	1.0720	51N	84E	56	280	04m58s
0595-Jan-16	10:39:46	4757	120	-17377	89	A	nn	0.0215	0.9324	20S	43E	89	253	08m20s
0595-Jul-13	00:38:15	4752	120	-17371	94	T	nn	-0.1892	1.0409	11N	172W	79	139	04m02s
0596-Jan-05	15:05:21	4748	120	-17365	99	A	p-	0.7124	0.9733	22N	34W	44	135	02m56s
0596-Jul-01	10:54:24	4743	120	-17359	104	A-	t-	-0.9989	0.9825	65S	11E	0		
0596-Nov-25	15:36:41	4739	120	-17354	71	P	-t	-1.3523	0.3457	68S	155E	0		
0596-Dec-25	02:37:53	4739	120	-17353	109	P	t-	1.3468	0.3583	65N	141E	0		
0597-May-21	23:13:16	4735	120	-17348	76	P	-t	1.0471	0.8817	68N	46E	0		
0597-Nov-15	07:16:04	4730	119	-17342	81	T	-p	-0.7063	1.0310	64S	75E	45	148	02m07s
0598-May-11	01:27:12	4726	119	-17336	86	A	nn	0.2634	0.9766	34N	173E	75	86	02m31s
0598-Nov-04	19:48:07	4721	119	-17330	91	A	nn	-0.0270	0.9888	18S	101W	88	40	01m13s
0599-Apr-30	10:23:47	4717	119	-17324	96	T	p-	-0.5111	1.0281	15S	49E	59	110	02m52s
0599-Oct-25	01:32:26	4712	119	-17318	101	A	p-	0.7034	0.9352	31N	175W	45	337	07m32s
0600-Mar-20	17:46:52	4708	119	-17313	68	P	-t	1.3268	0.3909	72N	158W	0		
0600-Apr-19	01:25:20	4707	119	-17312	106	P	t-	-1.2171	0.6019	71S	130W	0		
0600-Oct-13	01:25:13	4703	119	-17306	111	P	t-	1.4063	0.2733	71N	122W	0		

7TH CENTURY CE



In the 7th century CE the total number of solar eclipses was 251 solar eclipses: 90 partial solar eclipses, 90 annular solar eclipses (89 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 67 total solar eclipses (67 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 4 hybrid solar eclipses.

CALENDAR	TD	$\Delta T$	$\Delta T$	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
0601-Mar-10	09:40:26	4699	119	-17301	78	T	-p	0.6482	1.0327	35N	43E	49	144	02m47s
0601-Sep-02	12:14:44	4694	119	-17295	83	A	-p	-0.7996	0.9828	43S	3W	37	101	01m34s
0602-Feb-27	20:34:32	4690	119	-17289	88	A	nn	-0.0775	0.9787	12S	104W	85	76	02m23s
0602-Aug-23	00:03:53	4685	119	-17283	93	T	nn	-0.0305	1.0465	9N	162W	88	155	04m26s
0603-Feb-17	00:01:54	4681	118	-17277	98	A	p-	-0.8237	0.9274	63S	128W	34	481	06m13s
0603-Aug-12	16:23:26	4676	118	-17271	103	T	p-	0.6861	1.0671	56N	29W	46	301	04m33s
0604-Jan-07	05:53:20	4672	118	-17266	70	P	-t	1.4779	0.1477	68N	107E	0		
0604-Feb-05	23:28:51	4671	118	-17265	108	P	t-	-1.5119	0.0947	70S	9W	0		
0604-Jul-02	23:46:49	4668	118	-17260	75	P	-t	-1.1664	0.6920	67S	157W	0		
0604-Aug-01	08:37:42	4667	118	-17259	113	P	t-	1.4302	0.1980	70N	141W	0		
0604-Dec-26	12:23:31	4663	118	-17254	80	A	-p	0.7256	0.9884	23N	17E	43	59	01m14s
0605-Jun-22	08:02:30	4658	118	-17248	85	A	-p	-0.4304	0.9722	2S	81E	64	110	03m35s
0605-Dec-16	01:28:01	4654	118	-17242	90	Tm	nn	0.0180	1.0389	23S	178E	89	131	03m37s
0606-Jun-11	09:50:44	4649	118	-17236	95	A	pn	0.3403	0.9483	43N	47E	70	202	05m35s
0606-Dec-05	17:08:34	4645	118	-17230	100	T	p-	-0.6477	1.0374	62S	75W	49	165	02m31s
0607-May-31	11:14:05	4640	118	-17224	105	P	t-	1.0907	0.8139	64N	118W	0		
0607-Oct-26	16:58:11	4636	118	-17219	72	P	-t	1.4651	0.1587	62N	5E	0		

0607-Nov-25	06:44:07	4636	118	-17218	110	P	t-	-1.3634	0.3325	64S	46W	0		
0608-Apr-20	09:36:27	4632	117	-17213	77	T	-p	-0.8351	1.0358	38S	82E	33	214	02m51s
0608-Oct-14	20:42:34	4627	117	-17207	82	A	-p	0.8162	0.9257	39N	86W	35	468	07m33s
0609-Apr-10	01:35:31	4623	117	-17201	87	T	nn	-0.0834	1.0730	4N	178E	85	238	06m00s
0609-Oct-03	20:07:30	4618	117	-17195	92	A	nn	0.1199	0.9298	1N	102W	83	265	08m09s
0610-Mar-30	18:11:38	4613	117	-17189	97	T	p-	0.6470	1.0485	39N	96W	49	208	03m34s
0610-Sep-22	22:46:23	4609	117	-17183	102	A	p-	-0.5958	0.9678	32S	165W	53	142	03m00s
0611-Feb-18	17:18:11	4605	117	-17178	69	P	-t	-1.3718	0.3247	61S	54E	0		
0611-Mar-20	06:46:25	4604	117	-17177	107	P	t-	1.4340	0.2063	61N	8E	0		
0611-Aug-13	23:41:09	4601	117	-17172	74	P	-t	1.3373	0.3725	62N	37W	0		
0611-Sep-12	08:49:26	4600	117	-17171	112	P	t-	-1.2744	0.4927	61S	18W	0		
0612-Feb-07	18:54:05	4596	117	-17166	79	A	-p	-0.6996	0.9221	53S	51W	45	406	07m02s
0612-Aug-02	16:33:09	4591	117	-17160	84	T	-p	0.6162	1.0679	51N	27W	52	280	04m35s
0613-Jan-26	18:31:49	4587	117	-17154	89	A	nn	0.0031	0.9363	18S	75W	90	237	07m35s
0613-Jul-23	07:59:17	4582	116	-17148	94	T	nn	-0.1208	1.0358	13N	78E	83	121	03m28s
0614-Jan-15	23:27:13	4578	116	-17142	99	A	p-	0.7012	0.9782	22N	162W	45	108	02m19s
0614-Jul-12	17:42:45	4573	116	-17136	104	A	p-	-0.9238	0.9722	44S	85W	22	260	02m41s
0614-Dec-07	00:29:32	4569	116	-17131	71	P	-t	-1.3528	0.3446	67S	10E	0		
0615-Jan-05	11:22:47	4569	116	-17130	109	P	t-	1.3397	0.3711	64N	1W	0		
0615-Jun-02	05:34:52	4565	116	-17125	76	P	-t	1.1336	0.7340	67N	61W	0		
0615-Nov-26	16:04:15	4560	116	-17119	81	T	-p	-0.7104	1.0282	67S	52W	44	137	01m54s
0616-May-21	08:10:33	4556	116	-17113	86	A	-p	0.3438	0.9803	41N	72E	70	74	01m59s
0616-Nov-15	04:16:12	4551	116	-17107	91	A	nn	-0.0330	0.9843	21S	132E	88	56	01m43s
0617-May-10	17:39:20	4547	116	-17101	96	T	p-	-0.4385	1.0340	7S	63W	64	127	03m32s
0617-Nov-04	09:31:09	4542	116	-17095	101	A	p-	0.6911	0.9314	27N	61E	46	353	08m25s
0618-Apr-01	01:42:48	4538	116	-17090	68	P	-t	1.3753	0.2971	72N	68E	0		
0618-Apr-30	09:01:36	4537	116	-17089	106	P	t-	-1.1527	0.7268	70S	102E	0		
0618-Oct-24	09:08:19	4533	115	-17083	111	P	t-	1.3854	0.3085	71N	108E	0		
0619-Mar-21	17:34:28	4529	115	-17078	78	T	-p	0.6943	1.0323	43N	80W	46	150	02m36s
0619-Sep-13	19:55:11	4525	115	-17072	83	A	-p	-0.8390	0.9820	51S	125W	33	117	01m31s
0620-Mar-10	04:14:22	4520	115	-17066	88	A	nn	-0.0374	0.9787	5S	139E	88	76	02m25s
0620-Sep-02	07:57:43	4515	115	-17060	93	T	nn	-0.0772	1.0459	3N	78E	86	153	04m21s
0621-Feb-27	07:28:06	4511	115	-17054	98	A	p-	-0.7880	0.9297	56S	114E	38	426	06m27s

0621-Aug-23	00:16:16	4506	115	-17048	103	T	p-	0.6341	1.0648	49N	150W	50	274	04m40s
0622-Jan-17	13:58:05	4503	115	-17043	70	P	-t	1.4857	0.1328	69N	27W	0		
0622-Feb-16	07:04:13	4502	115	-17042	108	P	t-	-1.4820	0.1433	71S	137W	0		
0622-Jul-14	06:56:16	4498	115	-17037	75	P	-t	-1.2425	0.5509	68S	84E	0		
0622-Aug-12	16:12:33	4497	115	-17036	113	P	t-	1.3764	0.3004	70N	92E	0		
0623-Jan-06	20:55:42	4493	115	-17031	80	A	-p	0.7291	0.9926	25N	115W	43	38	00m47s
0623-Jul-03	14:41:13	4489	115	-17025	85	A	-p	-0.5141	0.9678	8S	21W	59	135	04m11s
0623-Dec-27	10:17:16	4484	114	-17019	90	T	nn	0.0216	1.0412	22S	46E	89	138	03m51s
0624-Jun-21	16:12:25	4480	114	-17013	95	A	pn	0.2518	0.9482	38N	46W	75	197	05m56s
0624-Dec-16	02:00:14	4475	114	-17007	100	T	p-	-0.6466	1.0364	64S	159E	49	161	02m28s
0625-Jun-10	17:49:10	4471	114	-17001	105	A+	t-	1.0043	0.9659	65N	133E	0		
0625-Nov-06	01:13:51	4467	114	-16996	72	P	-t	1.4804	0.1335	62N	129W	0		
0625-Dec-05	15:21:28	4466	114	-16995	110	P	t-	-1.3648	0.3306	65S	174E	0		
0626-May-01	17:01:37	4462	114	-16990	77	T	-p	-0.8996	1.0389	43S	29W	26	294	03m02s
0626-Oct-26	04:30:52	4458	114	-16984	82	A	-p	0.8371	0.9216	38N	154E	33	525	08m17s
0627-Apr-21	09:16:43	4453	114	-16978	87	T	-n	-0.1461	1.0758	5N	62E	82	248	06m19s
0627-Oct-15	03:46:22	4449	114	-16972	92	A	nn	0.1469	0.9282	2S	142E	82	272	08m30s
0628-Apr-10	01:54:34	4444	114	-16966	97	T	p-	0.5920	1.0496	40N	149E	53	202	03m40s
0628-Oct-03	06:37:18	4440	114	-16960	102	A	p-	-0.5633	0.9682	35S	77E	56	136	02m54s
0629-Mar-01	00:58:01	4436	113	-16955	69	P	-t	-1.4106	0.2574	61S	71W	0		
0629-Mar-30	14:16:04	4435	113	-16954	107	P	t-	1.3873	0.2904	61N	113W	0		
0629-Aug-24	07:31:52	4432	113	-16949	74	P	-t	1.3848	0.2820	61N	165W	0		
0629-Sep-22	16:55:09	4431	113	-16948	112	P	t-	-1.2370	0.5620	61S	149W	0		
0630-Feb-18	02:25:52	4427	113	-16943	79	A	-p	-0.7311	0.9239	51S	163W	43	413	06m53s
0630-Aug-14	00:17:44	4422	113	-16937	84	T	-p	0.6751	1.0631	51N	139W	47	278	04m13s
0631-Feb-07	02:19:24	4418	113	-16931	89	A	nn	-0.0195	0.9407	16S	168E	89	220	06m49s
0631-Aug-03	15:23:32	4413	113	-16925	94	Tm	nn	-0.0558	1.0303	14N	33W	87	102	02m52s
0632-Jan-27	07:44:52	4409	113	-16919	99	A	p-	0.6857	0.9836	23N	71E	47	78	01m40s
0632-Jul-23	00:34:52	4404	113	-16913	104	A	p-	-0.8523	0.9696	36S	171E	31	205	03m07s
0632-Dec-17	09:22:46	4401	113	-16908	71	P	-t	-1.3538	0.3428	66S	134W	0		
0633-Jan-15	20:04:35	4400	113	-16907	109	P	t-	1.3296	0.3896	63N	141W	0		
0633-Jun-12	11:57:13	4396	113	-16902	76	P	-t	1.2191	0.5879	66N	168W	0		
0633-Dec-07	00:52:56	4392	113	-16896	81	T	-p	-0.7139	1.0258	69S	175W	44	126	01m43s

0634-Jun-01	14:54:28	4387	112	-16890	86	A	-p	0.4245	0.9836	48N	28W	65	64	01m33s
0634-Nov-26	12:45:53	4383	112	-16884	91	A	nn	-0.0368	0.9804	24S	4E	88	70	02m09s
0635-May-22	00:52:28	4378	112	-16878	96	T	p-	-0.3629	1.0391	0S	174W	69	141	04m06s
0635-Nov-15	17:34:15	4373	112	-16872	101	A	p-	0.6829	0.9283	23N	62W	47	367	09m12s
0636-Apr-11	09:31:10	4370	112	-16867	68	P	-t	1.4300	0.1911	71N	64W	0		
0636-May-10	16:34:08	4369	112	-16866	106	P	t-	-1.0848	0.8592	69S	24W	0		
0636-Nov-03	16:57:41	4364	112	-16860	111	P	t-	1.3691	0.3359	70N	23W	0		
0637-Apr-01	01:19:44	4361	112	-16855	78	T	-p	0.7472	1.0312	51N	158E	41	158	02m21s
0637-Sep-24	03:46:22	4356	112	-16849	83	A	-p	-0.8706	0.9813	58S	109E	29	135	01m28s
0638-Mar-21	11:43:08	4352	112	-16843	88	A	nn	0.0111	0.9786	2N	24E	89	76	02m27s
0638-Sep-13	16:00:31	4347	112	-16837	93	Tm	nn	-0.1168	1.0450	4S	45W	83	151	04m14s
0639-Mar-10	14:43:25	4343	112	-16831	98	A	p-	-0.7435	0.9323	48S	0W	42	375	06m42s
0639-Sep-03	08:16:53	4338	111	-16825	103	T	p-	0.5888	1.0620	41N	87E	54	250	04m42s
0640-Jan-28	21:57:05	4334	111	-16820	70	P	-t	1.4985	0.1091	70N	159W	0		
0640-Feb-27	14:30:20	4334	111	-16819	108	P	t-	-1.4440	0.2059	72S	97E	0		
0640-Jul-24	14:09:09	4330	111	-16814	75	P	-t	-1.3146	0.4187	69S	36W	0		
0640-Aug-22	23:54:18	4329	111	-16813	113	P	t-	1.3288	0.3905	71N	37W	0		
0641-Jan-17	05:25:29	4325	111	-16808	80	A	-p	0.7349	0.9972	27N	115E	43	15	00m17s
0641-Jul-13	21:20:48	4321	111	-16802	85	A	-p	-0.5961	0.9630	15S	124W	53	167	04m45s
0642-Jan-06	19:05:44	4316	111	-16796	90	T	nn	0.0262	1.0437	21S	86W	89	146	04m06s
0642-Jul-02	22:34:58	4312	111	-16790	95	A	nn	0.1640	0.9477	33N	140W	80	195	06m21s
0642-Dec-27	10:51:19	4307	111	-16784	100	T	p-	-0.6449	1.0358	64S	34E	50	158	02m27s
0643-Jun-22	00:25:43	4303	111	-16778	105	A	t-	0.9177	0.9648	85N	94E	23	327	02m17s
0643-Nov-17	09:34:03	4299	111	-16773	72	P	-t	1.4916	0.1157	63N	96E	0		
0643-Dec-16	23:59:13	4298	111	-16772	110	P	t-	-1.3670	0.3271	66S	34E	0		
0644-May-12	00:24:57	4295	111	-16767	77	T	-t	-0.9665	1.0400	52S	138W	14	530	02m56s
0644-Nov-05	12:23:52	4290	110	-16761	82	A	-p	0.8538	0.9181	37N	33E	31	582	08m59s
0645-May-01	16:55:15	4286	110	-16755	87	T	-n	-0.2114	1.0779	5N	52W	78	257	06m38s
0645-Oct-25	11:32:35	4281	110	-16749	92	A	nn	0.1681	0.9271	5S	25E	80	277	08m51s
0646-Apr-21	09:30:56	4277	110	-16743	97	T	p-	0.5317	1.0502	41N	37E	58	195	03m45s
0646-Oct-14	14:37:38	4272	110	-16737	102	A	p-	-0.5376	0.9688	38S	43W	57	132	02m48s
0647-Mar-12	08:27:14	4268	110	-16732	69	P	-t	-1.4572	0.1766	61S	168E	0		
0647-Apr-10	21:36:04	4268	110	-16731	107	P	t-	1.3335	0.3869	61N	127E	0		

0647-Sep-04	15:31:33	4264	110	-16726	74	P	-t	1.4259	0.2041	61N	66E	0		
0647-Oct-04	01:10:22	4263	110	-16725	112	P	t-	-1.2066	0.6184	61S	78E	0		
0648-Feb-29	09:46:15	4260	110	-16720	79	A	-p	-0.7721	0.9257	49S	88E	39	430	06m44s
0648-Aug-24	08:10:44	4255	110	-16714	84	T	-p	0.7269	1.0579	50N	106E	43	274	03m52s
0649-Feb-17	09:59:02	4251	110	-16708	89	A	nn	-0.0498	0.9455	14S	53E	87	201	06m05s
0649-Aug-13	22:52:44	4246	110	-16702	94	T	nn	0.0044	1.0243	14N	145W	90	83	02m16s
0650-Feb-06	15:56:34	4242	109	-16696	99	A	p-	0.6642	0.9896	23N	55W	48	48	01m01s
0650-Aug-03	07:30:09	4237	109	-16690	104	A	p-	-0.7837	0.9660	31S	66E	38	193	03m34s
0650-Dec-28	18:14:32	4233	109	-16685	71	P	-t	-1.3563	0.3380	65S	82E	0		
0651-Jan-27	04:40:31	4233	109	-16684	109	P	t-	1.3145	0.4174	63N	80E	0		
0651-Jun-23	18:19:14	4229	109	-16679	76	P	-t	1.3047	0.4411	65N	85E	0		
0651-Jul-23	09:28:41	4228	109	-16678	114	Pb	t-	-1.5589	0.0085	63S	12E	0		
0651-Dec-18	09:42:20	4224	109	-16673	81	T	-p	-0.7166	1.0241	69S	63E	44	118	01m36s
0652-Jun-11	21:39:01	4220	109	-16667	86	A	-p	0.5056	0.9862	54N	126W	59	56	01m13s
0652-Dec-06	21:16:42	4216	109	-16661	91	A	nn	-0.0390	0.9771	25S	123W	88	82	02m31s
0653-Jun-01	08:05:30	4211	109	-16655	96	T	n-	-0.2862	1.0436	6N	75E	73	152	04m32s
0653-Nov-26	01:41:05	4207	109	-16649	101	A	p-	0.6779	0.9257	21N	173E	47	380	09m51s
0654-Apr-22	17:13:03	4203	109	-16644	68	Pe	-t	1.4900	0.0745	71N	167E	0		
0654-May-22	00:02:46	4202	109	-16643	106	P	t-	-1.0132	0.9989	68S	149W	0		
0654-Nov-15	00:54:01	4198	109	-16637	111	P	t-	1.3579	0.3546	69N	156W	0		
0655-Apr-12	08:56:50	4194	109	-16632	78	T	-p	0.8064	1.0296	60N	37E	36	169	02m05s
0655-Oct-05	11:47:06	4189	108	-16626	83	A	-p	-0.8952	0.9807	64S	19W	26	154	01m24s
0656-Mar-31	19:02:41	4185	108	-16620	88	A	nn	0.0665	0.9783	9N	89W	86	77	02m29s
0656-Sep-24	00:12:17	4181	108	-16614	93	T	-n	-0.1495	1.0441	10S	171W	81	149	04m05s
0657-Mar-20	21:50:55	4176	108	-16608	98	A	p-	-0.6929	0.9350	40S	112W	46	332	06m56s
0657-Sep-13	16:23:57	4172	108	-16602	103	T	p-	0.5491	1.0588	34N	38W	56	230	04m42s
0658-Feb-08	05:50:53	4168	108	-16597	70	P	-t	1.5159	0.0769	70N	69E	0		
0658-Mar-09	21:49:47	4167	108	-16596	108	P	t-	-1.3999	0.2793	72S	28W	0		
0658-Aug-04	21:25:40	4163	108	-16591	75	P	-t	-1.3824	0.2956	70S	158W	0		
0658-Sep-03	07:42:01	4163	108	-16590	113	P	t-	1.2867	0.4692	72N	168W	0		
0659-Jan-28	13:49:08	4159	108	-16585	80	H	-p	0.7467	1.0021	30N	15W	41	11	00m12s
0659-Jul-25	04:04:19	4155	108	-16579	85	A	-p	-0.6739	0.9577	23S	131E	47	208	05m13s
0660-Jan-18	03:48:54	4150	108	-16573	90	T	nn	0.0353	1.0468	18S	143E	88	156	04m22s

0660-Jul-13	05:02:47	4146	108	-16567	95	A	nn	0.0802	0.9468	26N	123E	85	197	06m46s
0661-Jan-06	19:37:51	4141	107	-16561	100	T	p-	-0.6399	1.0357	62S	91W	50	157	02m29s
0661-Jul-02	07:07:14	4137	107	-16555	105	A	t-	0.8340	0.9692	80N	89E	33	203	02m11s
0661-Nov-27	17:56:41	4133	107	-16550	72	P	-t	1.5000	0.1025	64N	39W	0		
0661-Dec-27	08:34:41	4132	107	-16549	110	P	t-	-1.3681	0.3253	67S	106W	0		
0662-May-23	07:44:32	4129	107	-16544	77	P	-t	-1.0370	0.9442	64S	119E	0		
0662-Jun-21	15:58:28	4128	107	-16543	115	Pb	t-	1.5378	0.0028	66N	149E	0		
0662-Nov-16	20:23:01	4124	107	-16538	82	A	-p	0.8649	0.9154	37N	91W	30	630	09m37s
0663-May-13	00:27:32	4120	107	-16532	87	T	-n	-0.2817	1.0792	3N	166W	74	266	06m56s
0663-Nov-05	19:27:33	4115	107	-16526	92	A	nn	0.1825	0.9265	7S	94W	80	281	09m12s
0664-May-01	16:59:46	4111	107	-16520	97	T	p-	0.4659	1.0501	41N	73W	62	187	03m50s
0664-Oct-24	22:47:37	4106	107	-16514	102	A	p-	-0.5194	0.9695	41S	166W	59	127	02m42s
0665-Mar-22	15:47:11	4103	107	-16509	69	Pe	-t	-1.5105	0.0842	61S	48E	0		
0665-Apr-21	04:47:52	4102	107	-16508	107	P	t-	1.2737	0.4943	62N	10E	0		
0665-Sep-14	23:38:20	4098	107	-16503	74	P	-t	1.4617	0.1365	61N	65W	0		
0665-Oct-14	09:33:14	4098	107	-16502	112	P	t-	-1.1819	0.6640	61S	57W	0		
0666-Mar-11	16:59:31	4094	106	-16497	79	A	-p	-0.8186	0.9275	48S	19W	35	461	06m34s
0666-Sep-04	16:09:25	4089	106	-16491	84	T	-p	0.7739	1.0524	48N	12W	39	269	03m31s
0667-Feb-28	17:31:26	4085	106	-16485	89	Am	nn	-0.0867	0.9506	11S	60W	85	182	05m23s
0667-Aug-25	06:27:27	4081	106	-16479	94	T	nn	0.0593	1.0180	13N	102E	87	62	01m40s
0668-Feb-18	00:02:34	4076	106	-16473	99	A	p-	0.6372	0.9959	25N	178W	50	18	00m23s
0668-Aug-13	14:31:07	4072	106	-16467	104	A	p-	-0.7203	0.9619	28S	40W	44	194	04m00s
0669-Jan-08	03:03:09	4068	106	-16462	71	P	-t	-1.3616	0.3277	64S	61W	0		
0669-Feb-06	13:11:12	4067	106	-16461	109	P	t-	1.2949	0.4540	62N	57W	0		
0669-Jul-04	00:45:58	4064	106	-16456	76	P	-t	1.3864	0.3010	65N	22W	0		
0669-Aug-02	16:05:57	4063	106	-16455	114	P	t-	-1.4862	0.1335	62S	97W	0		
0669-Dec-28	18:29:25	4059	106	-16450	81	T	-p	-0.7211	1.0227	68S	59W	44	112	01m30s
0670-Jun-23	04:25:57	4055	106	-16444	86	A	-p	0.5856	0.9883	59N	138E	54	51	00m58s
0670-Dec-18	05:46:37	4050	106	-16438	91	A	nn	-0.0415	0.9744	26S	111E	87	92	02m49s
0671-Jun-12	15:19:30	4046	106	-16432	96	T	n-	-0.2091	1.0473	11N	34W	78	161	04m48s
0671-Dec-07	09:48:08	4041	105	-16426	101	A	p-	0.6734	0.9238	19N	48E	48	389	10m18s
0672-Jun-01	07:30:37	4037	105	-16420	106	T	t-	-0.9405	1.0680	48S	85E	19	663	05m06s
0672-Nov-25	08:54:17	4033	105	-16414	111	P	t-	1.3491	0.3693	68N	72E	0		

0673-Apr-22	16:26:08	4029	105	-16409	78	T	-t	0.8713	1.0270	70N	88W	29	188	01m45s
0673-Oct-15	19:56:51	4025	105	-16403	83	A	-p	-0.9133	0.9805	70S	152W	24	172	01m20s
0674-Apr-12	02:12:16	4020	105	-16397	88	A	nn	0.1294	0.9778	17N	161E	82	80	02m31s
0674-Oct-05	08:33:12	4016	105	-16391	93	T	-n	-0.1749	1.0430	16S	62E	80	146	03m56s
0675-Apr-01	04:46:29	4011	105	-16385	98	A	p-	-0.6327	0.9377	32S	139E	51	296	07m10s
0675-Sep-25	00:40:02	4007	105	-16379	103	T	p-	0.5171	1.0553	28N	165W	59	212	04m37s
0676-Feb-19	13:37:33	4003	105	-16374	70	Pe	-t	1.5395	0.0336	71N	62W	0		
0676-Mar-20	05:00:34	4002	105	-16373	108	P	t-	-1.3482	0.3667	72S	150W	0		
0676-Aug-15	04:47:32	3999	105	-16368	75	P	-t	-1.4449	0.1838	71S	78E	0		
0676-Sep-13	15:37:02	3998	105	-16367	113	P	t-	1.2510	0.5351	72N	59E	0		
0677-Feb-07	22:08:05	3994	104	-16362	80	H	-p	0.7631	1.0073	34N	144W	40	39	00m40s
0677-Aug-04	10:52:12	3990	104	-16356	85	A	-p	-0.7473	0.9521	31S	25E	41	262	05m33s
0678-Jan-28	12:28:25	3986	104	-16350	90	T	nn	0.0479	1.0501	15S	13E	87	166	04m40s
0678-Jul-24	11:33:58	3981	104	-16344	95	Am	nn	-0.0010	0.9455	20N	24E	90	201	07m10s
0679-Jan-18	04:21:32	3977	104	-16338	100	T	p-	-0.6330	1.0360	59S	144E	50	157	02m33s
0679-Jul-13	13:53:38	3972	104	-16332	105	A	p-	0.7532	0.9724	71N	2W	41	151	02m07s
0679-Dec-09	02:19:52	3969	104	-16327	72	P	-t	1.5072	0.0913	65N	176W	0		
0680-Jan-07	17:06:09	3968	104	-16326	110	P	t-	-1.3670	0.3275	68S	114E	0		
0680-Jun-02	15:04:49	3964	104	-16321	77	P	-t	-1.1074	0.8110	64S	2W	0		
0680-Jul-01	23:10:10	3964	104	-16320	115	P	t-	1.4605	0.1455	67N	30E	0		
0680-Nov-27	04:24:43	3960	104	-16315	82	A	-p	0.8733	0.9133	37N	144E	29	672	10m08s
0681-May-23	07:58:07	3956	104	-16309	87	T	-n	-0.3538	1.0797	1N	81E	69	274	07m10s
0681-Nov-16	03:27:06	3951	104	-16303	92	A	nn	0.1935	0.9264	9S	145E	79	282	09m29s
0682-May-13	00:23:40	3947	104	-16297	97	T	n-	0.3965	1.0494	41N	179E	66	178	03m54s
0682-Nov-05	07:04:28	3942	103	-16291	102	A	p-	-0.5057	0.9706	44S	71E	59	122	02m35s
0683-May-02	11:50:42	3938	103	-16285	107	P	t-	1.2072	0.6133	62N	106W	0		
0683-Sep-26	07:54:34	3934	103	-16280	74	P	-t	1.4906	0.0824	61N	161E	0		
0683-Oct-25	18:04:25	3934	103	-16279	112	P	t-	-1.1636	0.6979	62S	166E	0		
0684-Mar-22	00:02:04	3930	103	-16274	79	A	-p	-0.8737	0.9290	49S	122W	29	531	06m23s
0684-Sep-15	00:16:07	3926	103	-16268	84	T	-p	0.8139	1.0468	47N	134W	35	263	03m11s
0685-Mar-11	00:55:32	3921	103	-16262	89	A	nn	-0.1312	0.9559	9S	171W	82	162	04m44s
0685-Sep-04	14:09:15	3917	103	-16256	94	H	nn	0.1073	1.0116	12N	14W	84	40	01m04s
0686-Feb-28	08:00:38	3912	103	-16250	99	H	p-	0.6027	1.0026	26N	61E	53	11	00m14s

0686-Aug-24	21:37:36	3908	103	-16244	104	A	p-	-0.6620	0.9573	27S	148W	48	202	04m27s
0687-Jan-19	11:47:53	3904	103	-16239	71	P	-t	-1.3706	0.3104	63S	158E	0		
0687-Feb-17	21:34:37	3904	103	-16238	109	P	t-	1.2692	0.5025	61N	167E	0		
0687-Jul-15	07:16:16	3900	103	-16233	76	P	-t	1.4654	0.1657	64N	130W	0		
0687-Aug-13	22:50:03	3899	103	-16232	114	P	t-	-1.4181	0.2499	62S	152E	0		
0688-Jan-09	03:13:00	3896	103	-16227	81	T	-p	-0.7283	1.0218	66S	178E	43	108	01m27s
0688-Jul-03	11:17:08	3891	102	-16221	86	A	-p	0.6631	0.9897	63N	44E	48	49	00m48s
0688-Dec-28	14:15:10	3887	102	-16215	91	A	nn	-0.0447	0.9723	26S	15W	87	99	03m01s
0689-Jun-22	22:34:36	3883	102	-16209	96	T	nn	-0.1320	1.0503	16N	144W	83	168	04m56s
0689-Dec-17	17:55:56	3878	102	-16203	101	A	p-	0.6699	0.9225	18N	76W	48	394	10m31s
0690-Jun-12	14:57:07	3874	102	-16197	106	T	t-	-0.8663	1.0718	37S	32W	30	469	05m52s
0690-Dec-06	16:57:43	3869	102	-16191	111	P	t-	1.3427	0.3800	67N	61W	0		
0691-May-03	23:48:03	3866	102	-16186	78	T	-t	0.9414	1.0229	79N	123E	19	238	01m20s
0691-Oct-27	04:15:08	3861	102	-16180	83	A	-p	-0.9251	0.9807	75S	72E	22	184	01m16s
0692-Apr-22	09:14:27	3857	102	-16174	88	A	nn	0.1974	0.9769	24N	54E	78	84	02m34s
0692-Oct-15	17:00:47	3853	102	-16168	93	T	-n	-0.1952	1.0421	21S	66W	79	143	03m48s
0693-Apr-11	11:35:52	3848	102	-16162	98	A	p-	-0.5675	0.9403	24S	32E	55	266	07m21s
0693-Oct-05	09:03:02	3844	101	-16156	103	T	p-	0.4911	1.0517	22N	66E	60	196	04m30s
0694-Mar-31	12:03:57	3840	101	-16150	108	P	t-	-1.2894	0.4668	72S	89E	0		
0694-Aug-26	12:14:54	3836	101	-16145	75	Pe	-t	-1.5019	0.0834	71S	48W	0		
0694-Sep-24	23:39:00	3835	101	-16144	113	P	t-	1.2216	0.5888	72N	77W	0		
0695-Feb-19	06:19:28	3832	101	-16139	80	T	-p	0.7865	1.0126	40N	89E	38	70	01m06s
0695-Aug-15	17:46:50	3827	101	-16133	85	A	-p	-0.8141	0.9463	40S	85W	35	338	05m46s
0696-Feb-08	20:59:48	3823	101	-16127	90	T	nn	0.0674	1.0537	10S	116W	86	178	04m58s
0696-Aug-03	18:13:43	3819	101	-16121	95	A	nn	-0.0753	0.9439	13N	77W	86	208	07m30s
0697-Jan-28	12:58:27	3814	101	-16115	100	T	p-	-0.6211	1.0367	55S	17E	51	158	02m41s
0697-Jul-23	20:45:52	3810	101	-16109	105	A	p-	0.6762	0.9749	62N	104W	47	122	02m04s
0697-Dec-19	10:42:09	3806	101	-16104	72	P	-t	1.5143	0.0799	66N	48E	0		
0698-Jan-18	01:32:20	3806	101	-16103	110	P	t-	-1.3624	0.3358	69S	24W	0		
0698-Jun-13	22:24:13	3802	101	-16098	77	P	-t	-1.1788	0.6752	65S	122W	0		
0698-Jul-13	06:25:14	3801	101	-16097	115	P	t-	1.3852	0.2854	68N	91W	0		
0698-Dec-08	12:28:35	3798	101	-16092	82	A	-p	0.8798	0.9120	38N	19E	28	706	10m28s
0699-Jun-03	15:24:46	3793	100	-16086	87	T	-p	-0.4290	1.0792	2S	31W	65	282	07m17s



0699-Nov-27	11:32:33	3789	100	-16080	92	A	nn	0.2002	0.9270	11S	24E	79	280	09m40s
0700-May-23	07:42:40	3785	100	-16074	97	T	n-	0.3234	1.0480	39N	72E	71	168	03m56s
0700-Nov-15	15:27:24	3780	100	-16068	102	A	p-	-0.4963	0.9721	47S	53W	60	115	02m26s

8TH CENTURY CE

In the 8th century CE the total number of solar eclipses was 233 solar eclipses: 77 partial solar eclipses, 88 annular solar eclipses (84 central annular solar eclipses with two limits, 2 central annular solar eclipses with one limit, 2 non-central annular solar eclipses with one limit), 66 total solar eclipses (64 central total solar eclipses with two limits, 2 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 2 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
0701-May-12	18:47:56	3776	100	-16062	107	P	t-	1.1366	0.7391	63N	140E	0		
0701-Oct-06	16:18:29	3772	100	-16057	74	P	-t	1.5137	0.0393	61N	26E	0		
0701-Nov-05	02:42:14	3772	100	-16056	112	P	t-	-1.1503	0.7225	62S	27E	0		
0702-Apr-02	06:56:31	3768	100	-16051	79	A	-t	-0.9352	0.9299	52S	138E	20	724	06m09s
0702-Sep-26	08:29:39	3764	100	-16045	84	T	-p	0.8480	1.0410	46N	102E	32	253	02m51s
0703-Mar-22	08:12:57	3759	100	-16039	89	A	nn	-0.1818	0.9612	7S	79E	79	142	04m08s
0703-Sep-15	21:57:46	3755	100	-16033	94	H	-n	0.1492	1.0052	9N	131W	81	18	00m29s
0704-Mar-10	15:52:18	3751	100	-16027	99	H	p-	0.5620	1.0093	27N	58W	56	38	00m49s
0704-Sep-04	04:51:56	3746	100	-16021	104	A	p-	-0.6105	0.9526	27S	103E	52	214	04m53s

0705-Jan-29	20:27:31	3743	99	-16016	71	P	-t	-1.3843	0.2841	62S	18E	0		
0705-Feb-28	05:51:56	3742	99	-16015	109	P	t-	1.2380	0.5616	61N	33E	0		
0705-Jul-25	13:52:28	3739	99	-16010	76	Pe	-t	1.5396	0.0386	63N	121E	0		
0705-Aug-24	05:41:26	3738	99	-16009	114	P	t-	-1.3553	0.3568	61S	40E	0		
0706-Jan-19	11:51:40	3734	99	-16004	81	T	-p	-0.7394	1.0211	63S	53E	42	107	01m24s
0706-Jul-14	18:13:46	3730	99	-15998	86	A	-p	0.7371	0.9905	65N	48W	42	50	00m42s
0707-Jan-08	22:38:02	3726	99	-15992	91	A	nn	-0.0519	0.9708	25S	140W	87	105	03m09s
0707-Jul-04	05:53:35	3721	99	-15986	96	T	nn	-0.0574	1.0525	20N	107E	87	174	04m57s
0707-Dec-29	02:00:24	3717	99	-15980	101	A	p-	0.6637	0.9219	18N	160E	48	393	10m30s
0708-Jun-22	22:25:21	3713	99	-15974	106	T	p-	-0.7933	1.0737	29S	148W	37	393	06m18s
0708-Dec-17	01:00:47	3708	99	-15968	111	P	t-	1.3353	0.3922	66N	168E	0		
0709-May-14	07:04:26	3705	99	-15963	78	P	-t	1.0153	0.9737	69N	69W	0		
0709-Nov-06	12:40:59	3701	99	-15957	83	A	-p	-0.9318	0.9814	79S	67W	21	186	01m10s
0710-May-03	16:06:38	3696	99	-15951	88	A	-p	0.2730	0.9755	32N	51W	74	91	02m38s
0710-Oct-27	01:37:10	3692	98	-15945	93	T	-n	-0.2086	1.0414	26S	164E	78	141	03m41s
0711-Apr-22	18:15:18	3688	98	-15939	98	A	p-	-0.4938	0.9427	16S	72W	60	242	07m29s
0711-Oct-16	17:34:06	3683	98	-15933	103	T	n-	0.4720	1.0482	17N	64W	62	181	04m21s
0712-Apr-10	18:59:49	3679	98	-15927	108	P	t-	-1.2235	0.5804	71S	29W	0		
0712-Oct-05	07:48:44	3675	98	-15921	113	P	t-	1.1990	0.6296	72N	146E	0		
0713-Mar-01	14:25:24	3671	98	-15916	80	T	-p	0.8150	1.0179	46N	38W	35	105	01m27s
0713-Aug-26	00:46:20	3667	98	-15910	85	A	-p	-0.8762	0.9401	49S	162E	28	458	05m52s
0714-Feb-19	05:26:14	3663	98	-15904	90	T	nn	0.0913	1.0574	5S	116E	85	190	05m15s
0714-Aug-15	00:59:21	3658	98	-15898	95	A	nn	-0.1448	0.9420	5N	179E	82	217	07m46s
0715-Feb-08	21:28:43	3654	98	-15892	100	T	p-	-0.6041	1.0377	50S	110W	53	159	02m50s
0715-Aug-04	03:45:52	3650	98	-15886	105	A	p-	0.6045	0.9767	53N	151E	53	104	02m03s
0715-Dec-30	19:01:51	3646	97	-15881	72	P	-t	1.5227	0.0662	67N	88W	0		
0716-Jan-29	09:52:07	3645	97	-15880	110	P	t-	-1.3537	0.3513	70S	162W	0		
0716-Jun-24	05:46:42	3642	97	-15875	77	P	-t	-1.2483	0.5421	66S	116E	0		
0716-Jul-23	13:47:00	3641	97	-15874	115	P	t-	1.3141	0.4179	69N	147E	0		
0716-Dec-18	20:30:45	3638	97	-15869	82	A	-p	0.8873	0.9112	39N	106W	27	739	10m35s
0717-Jun-13	22:52:18	3633	97	-15863	87	T	-p	-0.5034	1.0779	7S	145W	60	291	07m15s
0717-Dec-07	19:39:44	3629	97	-15857	92	A	nn	0.2058	0.9282	12S	99W	78	275	09m43s
0718-Jun-03	14:57:45	3625	97	-15851	97	T	n-	0.2479	1.0458	37N	34W	75	157	03m56s

0718-Nov-26	23:54:59	3621	97	-15845	102	A	p-	-0.4901	0.9742	50S	177W	60	106	02m15s
0719-May-24	01:39:03	3616	97	-15839	107	P	t-	1.0621	0.8713	64N	27E	0		
0719-Oct-18	00:50:16	3613	97	-15834	74	Pe	-t	1.5310	0.0073	62N	111W	0		
0719-Nov-16	11:24:53	3612	97	-15833	112	P	t-	-1.1409	0.7400	63S	114W	0		
0720-Apr-12	13:42:00	3608	97	-15828	79	A-	-t	-1.0036	0.9533	61S	61E	0		
0720-Oct-06	16:51:29	3604	97	-15822	84	T	-p	0.8748	1.0355	45N	25W	29	241	02m32s
0721-Apr-01	15:22:51	3600	97	-15816	89	A	nn	-0.2395	0.9666	6S	28W	76	124	03m34s
0721-Sep-26	05:53:07	3596	96	-15810	94	A	-n	0.1844	0.9988	7N	110E	79	4	00m07s
0722-Mar-21	23:36:28	3591	96	-15804	99	T	p-	0.5142	1.0162	28N	174W	59	64	01m23s
0722-Sep-15	12:13:34	3587	96	-15798	104	A	p-	-0.5656	0.9477	28S	8W	55	228	05m19s
0723-Feb-10	04:59:43	3584	96	-15793	71	P	-t	-1.4041	0.2459	62S	120W	0		
0723-Mar-11	14:00:10	3583	96	-15792	109	P	t-	1.1993	0.6356	61N	98W	0		
0723-Sep-04	12:42:20	3579	96	-15786	114	P	t-	-1.2997	0.4510	61S	75W	0		
0724-Jan-30	20:24:25	3575	96	-15781	81	T	-p	-0.7551	1.0207	59S	73W	41	107	01m23s
0724-Jul-25	01:16:41	3571	96	-15775	86	A	-p	0.8065	0.9906	66N	142W	36	56	00m39s
0725-Jan-19	06:56:02	3567	96	-15769	91	A	nn	-0.0623	0.9696	23S	96E	86	109	03m14s
0725-Jul-14	13:16:33	3562	96	-15763	96	T	nn	0.0145	1.0540	22N	3W	89	179	04m53s
0726-Jan-08	10:02:17	3558	96	-15757	101	A	p-	0.6559	0.9219	18N	37E	49	387	10m16s
0726-Jul-04	05:53:50	3554	96	-15751	106	T	p-	-0.7206	1.0745	23S	98E	44	347	06m31s
0726-Dec-28	09:04:12	3550	96	-15745	111	P	t-	1.3278	0.4045	65N	36E	0		
0727-May-25	14:15:48	3546	95	-15740	78	P	-t	1.0925	0.8297	68N	171E	0		
0727-Jun-23	22:34:26	3545	95	-15739	116	Pb	t-	-1.4763	0.1081	65S	161W	0		
0727-Nov-17	21:11:51	3542	95	-15734	83	A	-p	-0.9351	0.9828	83S	147E	20	177	01m03s
0728-May-13	22:53:59	3538	95	-15728	88	A	-p	0.3516	0.9737	40N	154W	69	101	02m43s
0728-Nov-06	10:18:47	3533	95	-15722	93	T	-n	-0.2182	1.0409	30S	34E	77	140	03m36s
0729-May-03	00:49:37	3529	95	-15716	98	A	p-	-0.4161	0.9448	8S	174W	65	223	07m31s
0729-Oct-27	02:10:12	3525	95	-15710	103	T	n-	0.4575	1.0448	13N	165E	63	167	04m11s
0730-Apr-22	01:50:25	3521	95	-15704	108	P	t-	-1.1523	0.7043	71S	146W	0		
0730-Oct-16	16:04:41	3517	95	-15698	113	P	t-	1.1824	0.6589	71N	8E	0		
0731-Mar-12	22:22:08	3513	95	-15693	80	T	-p	0.8516	1.0229	53N	164W	31	148	01m43s
0731-Sep-06	07:54:48	3509	95	-15687	85	A	-t	-0.9298	0.9338	58S	43E	21	673	05m51s
0732-Mar-01	13:43:40	3505	95	-15681	90	T	-n	0.1226	1.0611	1N	10W	83	202	05m32s
0732-Aug-25	07:54:31	3500	95	-15675	95	A	nn	-0.2065	0.9401	2S	73E	78	226	07m55s

0733-Feb-19	05:50:24	3496	94	-15669	100	T	p-	-0.5807	1.0389	44S	124E	54	160	03m03s
0733-Aug-14	10:54:33	3492	94	-15663	105	A	p-	0.5391	0.9780	45N	42E	57	93	02m03s
0734-Jan-10	03:16:53	3488	94	-15658	72	P	-t	1.5341	0.0471	68N	137E	0		
0734-Feb-08	18:03:04	3488	94	-15657	110	P	t-	-1.3387	0.3780	71S	62E	0		
0734-Jul-05	13:10:09	3484	94	-15652	77	P	-t	-1.3171	0.4100	67S	6W	0		
0734-Aug-03	21:14:18	3484	94	-15651	115	P	t-	1.2468	0.5436	70N	22E	0		
0734-Dec-30	04:32:03	3480	94	-15646	82	A	-p	0.8951	0.9112	41N	129E	26	767	10m28s
0735-Jun-25	06:18:59	3476	94	-15640	87	T	-p	-0.5780	1.0756	12S	102E	55	300	07m02s
0735-Dec-19	03:48:17	3472	94	-15634	92	A	nn	0.2106	0.9301	12S	139E	78	268	09m35s
0736-Jun-13	22:10:51	3467	94	-15628	97	T	nn	0.1716	1.0428	33N	140W	80	145	03m52s
0736-Dec-07	08:26:14	3463	94	-15622	102	A	p-	-0.4867	0.9767	52S	59E	61	95	02m01s
0737-Jun-03	08:25:40	3459	94	-15616	107	A	t-	0.9845	0.9736	72N	71W	9	598	01m30s
0737-Nov-26	20:11:53	3455	94	-15610	112	P	t-	-1.1348	0.7515	64S	104E	0		
0738-Apr-23	20:21:24	3451	94	-15605	79	P	-t	-1.0766	0.8303	62S	49W	0		
0738-Oct-18	01:19:40	3447	94	-15599	84	T	-p	0.8963	1.0302	45N	154W	26	226	02m13s
0739-Apr-12	22:26:25	3443	93	-15593	89	A	nn	-0.3032	0.9718	6S	134W	72	106	03m03s
0739-Oct-07	13:55:33	3439	93	-15587	94	A	-n	0.2130	0.9926	4N	12W	78	26	00m43s
0740-Apr-01	07:15:20	3435	93	-15581	99	T	p-	0.4610	1.0229	30N	71E	62	87	01m55s
0740-Sep-25	19:42:14	3430	93	-15575	104	A	p-	-0.5270	0.9431	30S	121W	58	243	05m45s
0741-Feb-20	13:25:16	3427	93	-15570	71	P	-t	-1.4296	0.1968	61S	105E	0		
0741-Mar-21	22:02:27	3426	93	-15569	109	P	t-	1.1554	0.7202	61N	132E	0		
0741-Sep-14	19:52:08	3422	93	-15563	114	P	t-	-1.2507	0.5334	61S	168E	0		
0742-Feb-10	04:48:48	3418	93	-15558	81	T	-p	-0.7773	1.0203	56S	163E	39	109	01m23s
0742-Aug-05	08:27:03	3414	93	-15552	86	A	-p	0.8706	0.9901	66N	123E	29	71	00m40s
0743-Jan-30	15:05:46	3410	93	-15546	91	A	nn	-0.0791	0.9690	21S	26W	85	112	03m15s
0743-Jul-25	20:45:51	3406	93	-15540	96	Tm	nn	0.0818	1.0547	24N	115W	85	181	04m46s
0744-Jan-19	17:56:27	3402	93	-15534	101	A	p-	0.6419	0.9227	18N	84W	50	375	09m52s
0744-Jul-14	13:26:32	3398	93	-15528	106	T	p-	-0.6512	1.0741	18S	17W	49	314	06m30s
0745-Jan-07	17:04:19	3393	92	-15522	111	P	t-	1.3169	0.4225	64N	94W	0		
0745-Jun-04	21:22:32	3390	92	-15517	78	P	-t	1.1723	0.6811	67N	53E	0		
0745-Jul-04	05:53:09	3389	92	-15516	116	P	t-	-1.4086	0.2380	65S	78E	0		
0745-Nov-28	05:47:33	3386	92	-15511	83	A	-p	-0.9353	0.9847	87S	19W	20	157	00m54s
0746-May-25	05:34:05	3382	92	-15505	88	A	-p	0.4355	0.9713	47N	107E	64	114	02m48s

0746-Nov-17	19:06:08	3377	92	-15499	93	T	-n	-0.2231	1.0409	33S	97W	77	140	03m33s
0747-May-14	07:16:32	3373	92	-15493	98	A	pn	-0.3321	0.9466	0N	86E	71	208	07m27s
0747-Nov-07	10:52:57	3369	92	-15487	103	T	n-	0.4487	1.0416	9N	32E	63	156	04m00s
0748-May-02	08:36:23	3365	92	-15481	108	P	t-	-1.0763	0.8377	70S	99E	0		
0748-Oct-27	00:26:07	3361	92	-15475	113	P	t-	1.1710	0.6788	70N	132W	0		
0749-Mar-23	06:13:43	3357	92	-15470	80	T	-p	0.8931	1.0275	61N	68E	26	208	01m53s
0749-Sep-16	15:10:03	3353	92	-15464	85	As	-t	-0.9772	0.9269	68S	89W	11	-	05m42s
0750-Mar-12	21:54:13	3349	92	-15458	90	T	-n	0.1599	1.0647	7N	135W	81	214	05m46s
0750-Sep-05	14:57:51	3345	91	-15452	95	A	nn	-0.2619	0.9381	9S	36W	75	238	08m00s
0751-Mar-02	14:04:26	3341	91	-15446	100	T	p-	-0.5513	1.0401	38S	2W	56	160	03m17s
0751-Aug-25	18:12:41	3337	91	-15440	105	A	p-	0.4806	0.9789	37N	70W	61	85	02m04s
0752-Jan-21	11:25:17	3333	91	-15435	72	Pe	-t	1.5499	0.0202	69N	2E	0		
0752-Feb-20	02:05:15	3332	91	-15434	110	P	t-	-1.3175	0.4158	71S	73W	0		
0752-Jul-15	20:39:30	3329	91	-15429	77	P	-t	-1.3815	0.2861	68S	130W	0		
0752-Aug-14	04:50:29	3328	91	-15428	115	P	t-	1.1859	0.6574	71N	105W	0		
0753-Jan-09	12:29:02	3325	91	-15423	82	A	-p	0.9060	0.9116	44N	4E	25	804	10m07s
0753-Jul-05	13:47:31	3321	91	-15417	87	T	-p	-0.6509	1.0725	18S	13W	49	310	06m39s
0753-Dec-29	11:55:33	3317	91	-15411	92	A	nn	0.2169	0.9327	11S	17E	78	258	09m16s
0754-Jun-25	05:23:06	3313	91	-15405	97	Tm	nn	0.0956	1.0391	29N	113E	84	132	03m43s
0754-Dec-18	16:57:31	3308	91	-15399	102	A	p-	-0.4824	0.9799	53S	64W	61	82	01m45s
0755-Jun-14	15:09:41	3304	91	-15393	107	A	p-	0.9054	0.9746	83N	113W	25	217	01m38s
0755-Dec-08	05:00:47	3300	91	-15387	112	P	t-	-1.1302	0.7603	65S	38W	0		
0756-May-04	02:54:50	3297	91	-15382	79	P	-t	-1.1543	0.6984	62S	157W	0		
0756-Oct-28	09:53:38	3293	90	-15376	84	T	-p	0.9127	1.0254	45N	74E	24	208	01m55s
0757-Apr-23	05:24:42	3288	90	-15370	89	A	-p	-0.3721	0.9766	6S	121E	68	89	02m34s
0757-Oct-17	22:05:05	3284	90	-15364	94	A	-n	0.2348	0.9868	1N	135W	76	48	01m20s
0758-Apr-12	14:46:09	3280	90	-15358	99	T	p-	0.4003	1.0295	31N	40W	66	108	02m27s
0758-Oct-07	03:19:25	3276	90	-15352	104	A	p-	-0.4960	0.9385	33S	124E	60	259	06m11s
0759-Mar-03	21:42:13	3273	90	-15347	71	P	-t	-1.4620	0.1342	61S	29W	0		
0759-Apr-02	05:56:07	3272	90	-15346	109	P	t-	1.1045	0.8188	61N	4E	0		
0759-Sep-26	03:11:48	3268	90	-15340	114	P	t-	-1.2094	0.6025	61S	49E	0		
0760-Feb-21	13:05:06	3264	90	-15335	81	T	-p	-0.8056	1.0199	54S	40E	36	113	01m22s
0760-Aug-15	15:46:14	3260	90	-15329	86	A	-p	0.9283	0.9888	64N	25E	21	106	00m43s

0761-Feb-09	23:08:43	3256	90	-15323	91	A	nn	-0.1006	0.9686	19S	147W	84	113	03m15s
0761-Aug-05	04:19:42	3252	90	-15317	96	T	nn	0.1459	1.0548	24N	133E	81	183	04m38s
0762-Jan-30	01:45:43	3248	90	-15311	101	A	p-	0.6243	0.9239	19N	156E	51	360	09m22s
0762-Jul-25	21:02:13	3244	89	-15305	106	T	p-	-0.5843	1.0729	15S	133W	54	289	06m20s
0763-Jan-19	01:00:18	3240	89	-15299	111	P	t-	1.3023	0.4469	63N	137E	0		
0763-Jun-16	04:27:20	3236	89	-15294	78	P	-t	1.2525	0.5327	66N	64W	0		
0763-Jul-15	13:14:15	3236	89	-15293	116	P	t-	-1.3433	0.3624	64S	42W	0		
0763-Dec-09	14:25:15	3232	89	-15288	83	A	-p	-0.9347	0.9872	87S	128E	20	130	00m45s
0764-Jun-04	12:12:09	3228	89	-15282	88	A	-p	0.5199	0.9685	55N	9E	58	133	02m55s
0764-Nov-28	03:55:09	3224	89	-15276	93	T	-n	-0.2270	1.0412	35S	132E	77	142	03m32s
0765-May-24	13:41:37	3220	89	-15270	98	A	nn	-0.2466	0.9480	7N	12W	76	197	07m17s
0765-Nov-17	19:38:54	3216	89	-15264	103	T	n-	0.4431	1.0389	6N	101W	64	145	03m49s
0766-May-13	15:17:59	3212	89	-15258	108	As	t-	-0.9955	0.9562	66S	17W	3	-	03m35s
0766-Nov-07	08:52:44	3208	89	-15252	113	P	t-	1.1645	0.6896	70N	88E	0		
0767-Apr-03	13:57:03	3205	89	-15247	80	T	-t	0.9421	1.0311	69N	67W	19	319	01m55s
0767-Sep-27	22:34:29	3200	89	-15241	85	A-	-t	-1.0165	0.9271	72S	113E	0		
0768-Mar-23	05:55:50	3196	88	-15235	90	T	-n	0.2049	1.0679	14N	102E	78	226	05m56s
0768-Sep-15	22:12:29	3192	88	-15229	95	A	nn	-0.3083	0.9362	16S	147W	72	249	08m00s
0769-Mar-12	22:08:56	3188	88	-15223	100	T	p-	-0.5146	1.0413	31S	126W	59	160	03m32s
0769-Sep-05	01:40:02	3184	88	-15217	105	A	p-	0.4288	0.9795	30N	176E	64	80	02m06s
0770-Mar-02	09:57:33	3180	88	-15211	110	P	t-	-1.2892	0.4660	72S	155E	0		
0770-Jul-27	04:12:45	3177	88	-15206	77	P	-t	-1.4428	0.1684	69S	104E	0		
0770-Aug-25	12:34:24	3176	88	-15205	115	P	t-	1.1310	0.7602	71N	125E	0		
0771-Jan-20	20:20:31	3173	88	-15200	82	A	-p	0.9209	0.9125	47N	119W	23	863	09m31s
0771-Jul-16	21:18:17	3169	88	-15194	87	T	-p	-0.7213	1.0684	25S	130W	44	322	06m04s
0772-Jan-09	20:01:09	3165	88	-15188	92	A	nn	0.2248	0.9358	9S	105W	77	245	08m46s
0772-Jul-05	12:35:26	3160	88	-15182	97	T	nn	0.0204	1.0347	24N	5E	89	117	03m27s
0772-Dec-29	01:29:02	3156	88	-15176	102	A	p-	-0.4778	0.9836	52S	172E	61	66	01m26s
0773-Jun-24	21:52:14	3152	88	-15170	107	A	p-	0.8257	0.9734	79N	148W	34	171	01m53s
0773-Dec-18	13:50:52	3148	88	-15164	112	P	t-	-1.1265	0.7677	66S	179E	0		
0774-May-15	09:22:50	3145	87	-15159	79	P	-t	-1.2360	0.5590	63S	96E	0		
0774-Nov-08	18:33:01	3141	87	-15153	84	T	-p	0.9241	1.0210	45N	60W	22	186	01m38s
0775-May-04	12:19:04	3137	87	-15147	89	A	-p	-0.4447	0.9812	8S	17E	64	74	02m06s

0775-Oct-29	06:19:32	3133	87	-15141	94	A	-n	0.2517	0.9814	1S	100E	75	68	01m57s
0776-Apr-22	22:13:19	3129	87	-15135	99	T	p-	0.3358	1.0356	31N	151W	70	127	02m58s
0776-Oct-17	11:03:17	3125	87	-15129	104	A	p-	-0.4713	0.9343	36S	8E	62	275	06m37s
0777-Mar-14	05:51:52	3121	87	-15124	71	Pe	-t	-1.5004	0.0597	61S	161W	0		
0777-Apr-12	13:44:05	3121	87	-15123	109	P	t-	1.0486	0.9277	61N	122W	0		
0777-Oct-06	10:39:45	3117	87	-15117	114	P	t-	-1.1743	0.6609	61S	72W	0		
0778-Mar-03	21:12:16	3113	87	-15112	81	T	-p	-0.8410	1.0192	52S	81W	32	119	01m20s
0778-Aug-26	23:14:35	3109	87	-15106	86	A	-p	0.9794	0.9864	63N	72W	11	249	00m50s
0779-Feb-21	07:00:00	3105	87	-15100	91	A	nn	-0.1312	0.9685	16S	95E	82	114	03m14s
0779-Aug-16	12:02:18	3101	87	-15094	96	T	-n	0.2032	1.0544	24N	18E	78	183	04m29s
0780-Feb-10	09:25:25	3097	87	-15088	101	A	p-	0.5987	0.9257	20N	40E	53	341	08m49s
0780-Aug-05	04:43:19	3093	86	-15082	106	T	p-	-0.5220	1.0708	13S	111E	58	267	06m03s
0781-Jan-29	08:50:13	3089	86	-15076	111	P	t-	1.2821	0.4806	62N	9E	0		
0781-Jun-26	11:30:36	3086	86	-15071	78	P	-t	1.3329	0.3850	65N	179E	0		
0781-Jul-25	20:37:45	3085	86	-15070	116	P	t-	-1.2803	0.4814	63S	163W	0		
0781-Dec-19	23:04:16	3082	86	-15065	83	A	-p	-0.9336	0.9903	83S	37W	21	97	00m34s
0782-Jun-15	18:45:16	3078	86	-15059	88	A	-p	0.6074	0.9649	61N	83W	52	160	03m02s
0782-Dec-09	12:47:35	3074	86	-15053	93	T	-n	-0.2282	1.0421	37S	1E	77	145	03m34s
0783-Jun-04	20:03:09	3070	86	-15047	98	A	nn	-0.1578	0.9489	14N	109W	81	190	07m01s
0783-Nov-29	04:28:01	3066	86	-15041	103	T	n-	0.4404	1.0365	4N	125E	64	137	03m39s
0784-May-23	21:58:26	3062	86	-15035	108	A	t-	-0.9127	0.9653	45S	132W	24	309	03m30s
0784-Nov-17	17:23:43	3058	86	-15029	113	P	t-	1.1620	0.6933	69N	52W	0		
0785-Apr-13	21:35:38	3055	86	-15024	80	Tn	-t	0.9956	1.0317	73N	114E	3	-	01m40s
0785-Oct-08	06:05:57	3051	86	-15018	85	P	-t	-1.0494	0.8701	72S	15W	0		
0786-Apr-03	13:51:20	3047	85	-15012	90	T	-n	0.2551	1.0709	21N	19W	75	238	06m02s
0786-Sep-27	05:36:09	3043	85	-15006	95	A	-n	-0.3474	0.9344	22S	100E	70	260	07m57s
0787-Mar-24	06:04:53	3039	85	-15000	100	T	p-	-0.4715	1.0422	24S	112E	62	159	03m46s
0787-Sep-16	09:18:15	3035	85	-14994	105	A	p-	0.3854	0.9799	23N	59E	67	77	02m07s
0788-Mar-12	17:40:53	3031	85	-14988	110	P	t-	-1.2548	0.5272	72S	24E	0		
0788-Aug-06	11:52:45	3027	85	-14983	77	Pe	-t	-1.4989	0.0608	70S	24W	0		
0788-Sep-04	20:26:52	3027	85	-14982	115	P	t-	1.0825	0.8507	72N	8W	0		
0789-Jan-31	04:05:00	3023	85	-14977	82	A	-p	0.9411	0.9136	53N	117E	19	984	08m47s
0789-Jul-27	04:53:29	3019	85	-14971	87	T	-p	-0.7875	1.0636	33S	112E	38	338	05m22s

0790-Jan-20	04:01:39	3015	85	-14965	92	A	nn	0.2374	0.9396	6S	134E	76	230	08m07s
0790-Jul-16	19:49:17	3011	85	-14959	97	T	nn	-0.0525	1.0296	18N	104W	87	100	03m03s
0791-Jan-09	09:57:27	3008	85	-14953	102	A	p-	-0.4701	0.9880	50S	49E	62	48	01m03s
0791-Jul-06	04:35:32	3004	85	-14947	107	A	p-	0.7474	0.9710	71N	128E	41	158	02m14s
0791-Dec-29	22:38:32	3000	85	-14941	112	P	t-	-1.1207	0.7791	67S	35E	0		
0792-May-25	15:48:26	2996	84	-14936	79	P	-t	-1.3192	0.4163	64S	10W	0		
0792-Jun-24	06:42:18	2996	84	-14935	117	Pb	t-	1.5321	0.0522	66N	81W	0		
0792-Nov-19	03:16:39	2992	84	-14930	84	T	-t	0.9315	1.0172	45N	164E	21	162	01m23s
0793-May-14	19:09:18	2988	84	-14924	89	A	-p	-0.5215	0.9852	10S	86W	58	61	01m40s
0793-Nov-08	14:39:38	2984	84	-14918	94	A	-n	0.2630	0.9765	4S	25W	75	87	02m34s
0794-May-04	05:34:50	2980	84	-14912	99	T	n-	0.2659	1.0413	31N	101E	74	143	03m30s
0794-Oct-28	18:54:38	2977	84	-14906	104	A	p-	-0.4529	0.9305	39S	109W	63	290	07m02s
0795-Apr-23	21:24:47	2973	84	-14900	109	Tn	t-	0.9864	1.0587	65N	131E	8	-	02m58s
0795-Oct-17	18:17:47	2969	84	-14894	114	P	t-	-1.1469	0.7063	61S	164E	0		
0796-Mar-14	05:11:02	2965	84	-14889	81	T	-t	-0.8829	1.0181	51S	160E	28	129	01m16s
0796-Sep-06	06:51:40	2961	84	-14883	86	P	-t	1.0241	0.9437	61N	172W	0		
0797-Mar-03	14:43:27	2957	84	-14877	91	A	nn	-0.1674	0.9685	14S	21W	80	115	03m14s
0797-Aug-26	19:51:30	2954	84	-14871	96	T	-n	0.2555	1.0535	22N	98W	75	182	04m21s
0798-Feb-20	16:56:55	2950	84	-14865	101	A	p-	0.5668	0.9279	21N	75W	55	321	08m15s
0798-Aug-16	12:29:33	2946	83	-14859	106	T	p-	-0.4643	1.0680	12S	6W	62	248	05m42s
0799-Feb-09	16:33:59	2942	83	-14853	111	P	t-	1.2563	0.5240	62N	116W	0		
0799-Jul-07	18:35:00	2938	83	-14848	78	P	-t	1.4111	0.2428	64N	62E	0		
0799-Aug-06	04:06:00	2938	83	-14847	116	P	t-	-1.2218	0.5908	62S	75E	0		
0799-Dec-31	07:41:12	2935	83	-14842	83	A	-p	-0.9350	0.9939	79S	179W	20	62	00m21s
0800-Jun-26	01:19:48	2931	83	-14836	88	A	-p	0.6927	0.9609	66N	172W	46	197	03m11s
0800-Dec-19	21:39:17	2927	83	-14830	93	T	-n	-0.2306	1.0434	37S	130W	76	149	03m38s

## 9TH CENTURY CE

In the 9th century CE the total number of solar eclipses was 222 solar eclipses:



**78 partial solar eclipses, 74 annular solar eclipses (72 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 2 non-central annular solar eclipses with one limit), 64 total solar eclipses (62 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 2 non-central total solar eclipses with one limit), 6 hybrid solar eclipses.**

CALENDAR	TD	$\Delta T$	$\Delta T$	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
0801-Jun-15	02:24:22	2923	83	-14824	98	A	nn	-0.0687	0.9495	20N	155E	86	186	06m41s
0801-Dec-09	13:18:00	2919	83	-14818	103	T	n-	0.4387	1.0346	3N	9W	64	130	03m29s
0802-Jun-04	04:38:01	2915	83	-14812	108	A	t-	-0.8276	0.9711	33S	122E	34	185	03m12s
0802-Nov-29	01:56:28	2911	83	-14806	113	P	t-	1.1617	0.6932	68N	168E	0		
0803-Apr-25	05:07:28	2908	83	-14801	80	P	-t	1.0552	0.9076	70N	21W	0		
0803-May-24	13:35:44	2907	83	-14800	118	Pb	t-	-1.5326	0.0122	68S	1W	0		
0803-Oct-19	13:46:19	2904	83	-14795	85	P	-t	-1.0747	0.8265	71S	144W	0		
0804-Apr-13	21:39:15	2900	83	-14789	90	T	-n	0.3117	1.0732	28N	139W	72	250	06m03s
0804-Oct-07	13:09:40	2896	82	-14783	95	A	-n	-0.3788	0.9329	29S	16W	68	270	07m52s
0805-Apr-03	13:51:49	2892	82	-14777	100	T	n-	-0.4215	1.0429	17S	8W	65	157	04m00s
0805-Sep-26	17:06:29	2888	82	-14771	105	A	p-	0.3493	0.9803	17N	61W	69	75	02m09s
0806-Mar-24	01:12:04	2884	82	-14765	110	P	t-	-1.2111	0.6047	72S	103W	0		
0806-Sep-16	04:28:22	2881	82	-14759	115	P	t-	1.0409	0.9282	72N	143W	0		
0807-Feb-11	11:42:00	2877	82	-14754	82	A	-t	0.9673	0.9148	60N	8W	14	1317	07m53s
0807-Aug-07	12:33:06	2873	82	-14748	87	T	-p	-0.8497	1.0579	41S	9W	31	361	04m35s
0808-Jan-31	11:57:23	2870	82	-14742	92	A	nn	0.2547	0.9439	2S	14E	75	214	07m22s
0808-Jul-27	03:05:57	2866	82	-14736	97	T	nn	-0.1221	1.0241	12N	145E	83	83	02m33s
0809-Jan-19	18:23:45	2862	82	-14730	102	A	p-	-0.4599	0.9929	47S	75W	62	28	00m38s
0809-Jul-16	11:18:50	2858	82	-14724	107	A	p-	0.6697	0.9679	63N	31E	48	156	02m41s
0810-Jan-09	07:25:11	2854	82	-14718	112	P	t-	-1.1139	0.7923	68S	108W	0		
0810-Jun-05	22:12:22	2851	82	-14713	79	P	-t	-1.4033	0.2716	65S	116W	0		

0810-Jul-05	13:05:44	2850	82	-14712	117	P	t-	1.4485	0.1956	67N	172E	0		
0810-Nov-30	12:02:17	2847	81	-14707	84	T	-t	0.9372	1.0140	46N	27E	20	138	01m08s
0811-May-26	01:58:54	2843	81	-14701	89	A	-p	-0.5997	0.9887	14S	170E	53	49	01m17s
0811-Nov-19	23:02:45	2839	81	-14695	94	A	-n	0.2710	0.9722	6S	152W	74	103	03m10s
0812-May-14	12:55:08	2835	81	-14689	99	T	n-	0.1940	1.0464	30N	8W	79	157	04m00s
0812-Nov-08	02:49:51	2831	81	-14683	104	A	p-	-0.4382	0.9272	42S	133E	64	303	07m26s
0813-May-04	05:01:45	2828	81	-14677	109	T	t-	0.9210	1.0659	69N	43E	23	557	03m34s
0813-Oct-28	02:03:07	2824	81	-14671	114	P	t-	-1.1249	0.7425	62S	38E	0		
0814-Mar-25	12:58:57	2821	81	-14666	81	T	-t	-0.9331	1.0161	53S	47E	21	152	01m07s
0814-Sep-17	14:39:18	2817	81	-14660	86	P	-t	1.0611	0.8773	61N	61E	0		
0815-Mar-14	22:14:54	2813	81	-14654	91	A	-n	-0.2127	0.9684	12S	134W	78	116	03m15s
0815-Sep-07	03:50:12	2809	81	-14648	96	T	-n	0.3002	1.0522	20N	142E	72	180	04m14s
0816-Mar-03	00:17:41	2805	81	-14642	101	A	p-	0.5263	0.9304	23N	174E	58	300	07m45s
0816-Aug-26	20:23:27	2801	81	-14636	106	T	n-	-0.4133	1.0647	13S	126W	66	230	05m20s
0817-Feb-20	00:10:11	2798	80	-14630	111	P	t-	1.2238	0.5793	61N	121E	0		
0817-Jul-18	01:39:33	2794	80	-14625	78	Pe	-t	1.4880	0.1044	63N	54W	0		
0817-Aug-16	11:38:10	2794	80	-14624	116	P	t-	-1.1671	0.6920	62S	48W	0		
0818-Jan-10	16:17:02	2791	80	-14619	83	A	-p	-0.9381	0.9979	75S	43E	20	22	00m07s
0818-Jul-07	07:53:28	2787	80	-14613	88	A	-p	0.7781	0.9561	70N	106E	39	255	03m22s
0818-Dec-31	06:30:11	2783	80	-14607	93	T	-n	-0.2339	1.0452	36S	99E	76	155	03m44s
0819-Jun-26	08:46:25	2779	80	-14601	98	Am	nn	0.0200	0.9495	25N	60E	89	185	06m22s
0819-Dec-20	22:08:45	2775	80	-14595	103	T	n-	0.4378	1.0332	2N	143W	64	124	03m19s
0820-Jun-14	11:19:02	2771	80	-14589	108	A	p-	-0.7427	0.9759	24S	18E	42	128	02m49s
0820-Dec-09	10:30:21	2768	80	-14583	113	P	t-	1.1630	0.6903	67N	28E	0		
0821-May-05	12:36:30	2764	80	-14578	80	P	-t	1.1177	0.7904	70N	147W	0		
0821-Jun-03	20:45:37	2764	80	-14577	118	P	t-	-1.4545	0.1560	67S	120W	0		
0821-Oct-29	21:33:10	2761	80	-14572	85	P	-t	-1.0941	0.7931	70S	85E	0		
0822-Apr-25	05:20:50	2757	80	-14566	90	T	-n	0.3736	1.0750	36N	104E	68	262	05m58s
0822-Oct-18	20:52:16	2753	80	-14560	95	A	-p	-0.4031	0.9318	34S	133W	66	278	07m45s
0823-Apr-14	21:31:08	2749	79	-14554	100	T	n-	-0.3656	1.0431	10S	126W	68	154	04m11s
0823-Oct-08	01:03:57	2745	79	-14548	105	A	n-	0.3202	0.9807	11N	178E	71	72	02m09s
0824-Apr-03	08:34:56	2742	79	-14542	110	P	t-	-1.1616	0.6927	72S	132E	0		
0824-Sep-26	12:38:55	2738	79	-14536	115	P	t-	1.0063	0.9928	72N	80E	0		

0825-Feb-21	19:10:25	2735	79	-14531	82	A+	-t	1.0001	0.9517	72N	155W	0		
0825-Aug-17	20:17:57	2731	79	-14525	87	T	-t	-0.9071	1.0515	51S	134W	24	406	03m46s
0826-Feb-10	19:46:16	2727	79	-14519	92	A	nn	0.2780	0.9487	3N	105W	74	196	06m32s
0826-Aug-07	10:27:08	2723	79	-14513	97	T	-n	-0.1868	1.0180	5N	33E	79	63	01m56s
0827-Jan-31	02:43:11	2720	79	-14507	102	A	p-	-0.4435	0.9983	42S	161E	63	6	00m09s
0827-Jul-27	18:06:43	2716	79	-14501	107	A	p-	0.5966	0.9642	55N	70W	53	161	03m15s
0828-Jan-20	16:06:56	2712	79	-14495	112	P	t-	-1.1035	0.8128	69S	109E	0		
0828-Jun-16	04:36:37	2709	79	-14490	79	Pe	-t	-1.4869	0.1274	66S	137E	0		
0828-Jul-15	19:32:40	2708	79	-14489	117	P	t-	1.3672	0.3347	68N	64E	0		
0828-Dec-10	20:48:54	2705	79	-14484	84	T	-t	0.9415	1.0113	47N	110W	19	117	00m56s
0829-Jun-05	08:47:39	2701	78	-14478	89	A	-p	-0.6790	0.9916	19S	66E	47	40	00m57s
0829-Nov-30	07:29:02	2697	78	-14472	94	A	-n	0.2756	0.9685	7S	81E	74	118	03m43s
0830-May-25	20:11:14	2694	78	-14466	99	T	nn	0.1179	1.0508	28N	115W	83	170	04m31s
0830-Nov-19	10:51:02	2690	78	-14460	104	A	p-	-0.4289	0.9245	45S	15E	64	314	07m47s
0831-May-15	12:33:57	2686	78	-14454	109	T	p-	0.8515	1.0705	70N	50W	31	439	04m00s
0831-Nov-08	09:55:40	2682	78	-14448	114	P	t-	-1.1086	0.7694	62S	89W	0		
0832-Apr-04	20:39:09	2679	78	-14443	81	T	-t	-0.9888	1.0120	58S	56W	8	303	00m47s
0832-Sep-27	22:36:33	2676	78	-14437	86	P	-t	1.0907	0.8239	61N	67W	0		
0833-Mar-25	05:37:42	2672	78	-14431	91	A	-n	-0.2644	0.9683	10S	115E	75	117	03m18s
0833-Sep-17	11:55:57	2668	78	-14425	96	T	-n	0.3394	1.0507	18N	20E	70	178	04m08s
0834-Mar-14	07:30:23	2664	78	-14419	101	A	p-	0.4793	0.9331	24N	66E	61	280	07m17s
0834-Sep-07	04:24:08	2661	78	-14413	106	T	n-	-0.3680	1.0609	14S	114E	68	214	04m57s
0835-Mar-03	07:38:34	2657	78	-14407	111	P	t-	1.1840	0.6475	61N	1W	0		
0835-Aug-27	19:17:23	2653	78	-14401	116	P	t-	-1.1186	0.7804	61S	172W	0		
0836-Jan-22	00:48:28	2650	77	-14396	83	H	-p	-0.9458	1.0021	71S	89W	18	23	00m07s
0836-Jul-17	14:30:20	2646	77	-14390	88	A	-t	0.8598	0.9508	72N	29E	30	354	03m34s
0837-Jan-10	15:17:33	2643	77	-14384	93	T	-n	-0.2404	1.0473	35S	31W	76	162	03m52s
0837-Jul-06	15:11:40	2639	77	-14378	98	A	nn	0.1065	0.9491	29N	35W	84	188	06m05s
0837-Dec-31	06:56:23	2635	77	-14372	103	T	n-	0.4348	1.0323	2N	84E	64	121	03m12s
0838-Jun-25	18:01:45	2631	77	-14366	108	A	p-	-0.6579	0.9799	17S	85W	49	95	02m24s
0838-Dec-20	19:02:51	2628	77	-14360	113	P	t-	1.1639	0.6884	65N	111W	0		
0839-May-16	20:01:32	2625	77	-14355	80	P	-t	1.1840	0.6647	69N	90E	0		
0839-Jun-15	03:56:17	2624	77	-14354	118	P	t-	-1.3759	0.3022	66S	121E	0		

0839-Nov-10	05:25:36	2621	77	-14349	85	P	-t	-1.1087	0.7681	69S	46W	0	
0840-May-05	12:56:59	2617	77	-14343	90	T	-p	0.4401	1.0759	43N	11W	64	274 05m46s
0840-Oct-29	04:43:48	2613	77	-14337	95	A	-p	-0.4207	0.9311	39S	109E	65	284 07m35s
0841-Apr-25	05:01:39	2610	77	-14331	100	T	n-	-0.3030	1.0429	3S	118E	72	150 04m17s
0841-Oct-18	09:11:01	2606	77	-14325	105	A	n-	0.2981	0.9812	6N	54E	73	70 02m07s
0842-Apr-14	15:47:14	2602	76	-14319	110	P	t-	-1.1040	0.7949	71S	9E	0	
0842-Oct-07	20:58:24	2599	76	-14313	115	T	t-	0.9787	1.0229	65N	84W	11	404 01m30s
0843-Mar-05	02:29:29	2596	76	-14308	82	P	-t	1.0403	0.8857	72N	81E	0	
0843-Aug-29	04:09:41	2592	76	-14302	87	T	-t	-0.9581	1.0442	61S	94E	16	526 02m56s
0844-Feb-22	03:29:38	2588	76	-14296	92	A	-n	0.3064	0.9538	8N	137E	72	177 05m40s
0844-Aug-17	17:52:04	2585	76	-14290	97	H	-n	-0.2474	1.0117	2S	80W	76	42 01m15s
0845-Feb-10	10:58:48	2581	76	-14284	102	H	p-	-0.4233	1.0041	37S	38E	65	16 00m23s
0845-Aug-07	00:57:48	2577	76	-14278	107	A	p-	0.5268	0.9602	47N	173W	58	170 03m54s
0846-Jan-31	00:44:00	2573	76	-14272	112	P	t-	-1.0890	0.8413	70S	33W	0	
0846-Jul-27	02:04:14	2570	76	-14266	117	P	t-	1.2888	0.4683	69N	46W	0	
0846-Dec-22	05:34:45	2567	76	-14261	84	T	-t	0.9461	1.0091	48N	113E	18	98 00m45s
0847-Jun-16	15:39:15	2563	76	-14255	89	A	-p	-0.7569	0.9937	26S	39W	41	34 00m42s
0847-Dec-11	15:54:07	2559	76	-14249	94	A	-n	0.2805	0.9654	7S	46W	74	130 04m13s
0848-Jun-05	03:29:11	2556	76	-14243	99	T	nn	0.0425	1.0545	26N	137E	87	180 04m59s
0848-Nov-29	18:54:00	2552	75	-14237	104	A	p-	-0.4216	0.9224	47S	103W	65	323 08m06s
0849-May-25	20:03:17	2548	75	-14231	109	T	p-	0.7795	1.0738	69N	145W	38	383 04m22s
0849-Nov-18	17:53:50	2545	75	-14225	114	P	t-	-1.0963	0.7897	63S	142E	0	
0850-Apr-16	04:09:47	2542	75	-14220	81	P	-t	-1.0515	0.9047	61S	164W	0	
0850-May-15	12:49:23	2541	75	-14219	119	Pb	t-	1.5296	0.0065	63N	139W	0	
0850-Oct-09	06:43:49	2538	75	-14214	86	P	-t	1.1132	0.7834	61N	162E	0	
0851-Apr-05	12:48:48	2534	75	-14208	91	A	-p	-0.3250	0.9680	9S	8E	71	121 03m25s
0851-Sep-28	20:12:03	2531	75	-14202	96	T	-n	0.3704	1.0492	15N	104W	68	174 04m03s
0852-Mar-24	14:33:01	2527	75	-14196	101	A	p-	0.4239	0.9359	25N	40W	65	260 06m53s
0852-Sep-17	12:32:11	2523	75	-14190	106	T	n-	-0.3292	1.0569	16S	9W	71	197 04m35s
0853-Mar-13	14:59:01	2520	75	-14184	111	P	t-	1.1369	0.7289	61N	120W	0	
0853-Sep-07	03:02:35	2516	75	-14178	116	P	t-	-1.0756	0.8577	61S	62E	0	
0854-Feb-01	09:14:56	2513	75	-14173	83	T	-p	-0.9581	1.0065	68S	142E	16	80 00m22s
0854-Jul-28	21:09:45	2510	75	-14167	88	A	-t	0.9385	0.9444	70N	44W	20	602 03m47s

0855-Jan-22	00:01:21	2506	74	-14161	93	T	-n	-0.2501	1.0499	33S	160W	75	171	04m01s
0855-Jul-17	21:40:54	2502	74	-14155	98	A	nn	0.1898	0.9484	31N	130W	79	193	05m52s
0856-Jan-11	15:40:57	2499	74	-14149	103	T	n-	0.4297	1.0318	3N	49W	65	118	03m05s
0856-Jul-06	00:49:14	2495	74	-14143	108	A	p-	-0.5759	0.9831	12S	171E	55	73	02m00s
0856-Dec-31	03:33:55	2491	74	-14137	113	P	t-	1.1642	0.6874	64N	111E	0		
0857-May-27	03:24:29	2488	74	-14132	80	P	-t	1.2525	0.5340	68N	33W	0		
0857-Jun-25	11:08:17	2488	74	-14131	118	P	t-	-1.2973	0.4493	65S	2E	0		
0857-Nov-20	13:22:53	2485	74	-14126	85	P	-t	-1.1191	0.7503	68S	178W	0		
0858-May-16	20:29:09	2481	74	-14120	90	T	-p	0.5102	1.0761	51N	124W	59	287	05m30s
0858-Nov-09	12:41:52	2478	74	-14114	95	A	-p	-0.4333	0.9309	44S	9W	64	287	07m24s
0859-May-06	12:26:32	2474	74	-14108	100	T	nn	-0.2362	1.0420	4N	5E	76	145	04m17s
0859-Oct-29	17:26:13	2470	74	-14102	105	A	n-	0.2819	0.9821	1N	71W	74	66	02m03s
0860-Apr-24	22:52:34	2467	74	-14096	110	P	t-	-1.0414	0.9056	70S	111W	0		
0860-Oct-18	05:24:56	2463	74	-14090	115	T	t-	0.9566	1.0241	59N	134E	16	286	01m42s
0861-Mar-15	09:39:57	2460	74	-14085	82	P	-t	1.0873	0.8080	72N	42W	0		
0861-Sep-08	12:08:19	2457	73	-14079	87	T-	-t	-1.0031	1.0055	72S	70W	0		
0862-Mar-04	11:03:31	2453	73	-14073	92	A	-n	0.3433	0.9591	15N	21E	70	158	04m49s
0862-Aug-29	01:24:01	2450	73	-14067	97	H	-n	-0.3012	1.0051	9S	164E	72	19	00m33s
0863-Feb-21	19:06:09	2446	73	-14061	102	H	p-	-0.3954	1.0103	31S	85W	67	39	00m57s
0863-Aug-18	07:55:43	2442	73	-14055	107	A	p-	0.4631	0.9558	39N	80E	62	181	04m38s
0864-Feb-11	09:13:57	2439	73	-14049	112	P	t-	-1.0684	0.8813	71S	174W	0		
0864-Aug-06	08:42:50	2435	73	-14043	117	P	t-	1.2156	0.5927	70N	159W	0		
0865-Jan-01	14:18:57	2432	73	-14038	84	T	-t	0.9517	1.0073	50N	24W	17	84	00m36s
0865-Jun-26	22:31:44	2429	73	-14032	89	A	-p	-0.8347	0.9949	34S	146W	33	32	00m31s
0865-Dec-22	00:19:56	2425	73	-14026	94	A	-n	0.2840	0.9629	7S	173W	74	140	04m37s
0866-Jun-16	10:46:19	2422	73	-14020	99	T	nn	-0.0341	1.0574	22N	28E	88	189	05m24s
0866-Dec-11	02:59:05	2418	73	-14014	104	A	p-	-0.4164	0.9210	48S	140E	65	329	08m22s
0867-Jun-06	03:30:53	2414	73	-14008	109	T	p-	0.7059	1.0760	67N	117E	45	349	04m43s
0867-Nov-30	01:57:06	2411	73	-14002	114	P	t-	-1.0881	0.8034	64S	11E	0		
0868-Apr-26	11:33:58	2408	72	-13997	81	P	-t	-1.1188	0.7800	62S	75E	0		
0868-May-25	20:11:06	2407	72	-13996	119	P	t-	1.4637	0.1326	64N	101E	0		
0868-Oct-19	14:59:02	2404	72	-13991	86	P	-t	1.1301	0.7530	62N	29E	0		
0869-Apr-15	19:52:31	2401	72	-13985	91	A	-p	-0.3908	0.9674	9S	98W	67	126	03m35s

0869-Oct-09	04:35:20	2397	72	-13979	96	T	-n	0.3959	1.0475	13N	129E	67	171	04m00s
0870-Apr-04	21:26:32	2394	72	-13973	101	A	p-	0.3609	0.9388	26N	142W	69	242	06m35s
0870-Sep-28	20:47:44	2390	72	-13967	106	T	n-	-0.2969	1.0527	19S	133W	73	182	04m15s
0871-Mar-24	22:12:27	2387	72	-13961	111	P	t-	1.0832	0.8225	61N	122E	0		
0871-Sep-18	10:54:44	2383	72	-13955	116	P	t-	-1.0390	0.9223	61S	65W	0		
0872-Feb-12	17:34:59	2380	72	-13950	83	T	-p	-0.9764	1.0105	65S	19E	12	175	00m36s
0872-Aug-08	03:55:23	2377	72	-13944	88	A+	-t	1.0113	0.9439	62N	108W	0		
0873-Feb-01	08:39:08	2373	72	-13938	93	T	-n	-0.2651	1.0527	30S	71E	74	181	04m12s
0873-Jul-28	04:15:34	2370	72	-13932	98	A	nn	0.2691	0.9473	33N	134E	74	201	05m44s
0874-Jan-22	00:20:08	2366	72	-13926	103	T	n-	0.4204	1.0318	5N	180W	65	118	03m01s
0874-Jul-17	07:42:20	2363	72	-13920	108	A	p-	-0.4971	0.9856	8S	67E	60	58	01m39s
0875-Jan-11	11:59:05	2359	71	-13914	113	P	t-	1.1604	0.6940	64N	26W	0		
0875-Jun-07	10:46:49	2356	71	-13909	80	P	-t	1.3220	0.4003	67N	155W	0		
0875-Jul-06	18:24:44	2356	71	-13908	118	P	t-	-1.2210	0.5928	64S	117W	0		
0875-Dec-01	21:23:35	2353	71	-13903	85	P	-t	-1.1269	0.7372	67S	50E	0		
0876-May-27	03:57:49	2349	71	-13897	90	T	-p	0.5830	1.0753	58N	126E	54	301	05m10s
0876-Nov-19	20:46:14	2346	71	-13891	95	A	-p	-0.4414	0.9313	47S	128W	64	287	07m11s
0877-May-16	19:44:49	2342	71	-13885	100	T	nn	-0.1645	1.0406	11N	107W	81	138	04m09s
0877-Nov-09	01:49:18	2339	71	-13879	105	A	n-	0.2716	0.9832	3S	162E	74	62	01m57s
0878-May-06	05:48:06	2335	71	-13873	110	A	t-	-0.9716	0.9711	58S	120E	13	455	02m28s
0878-Oct-29	13:59:53	2332	71	-13867	115	T	t-	0.9411	1.0246	53N	4W	19	250	01m50s
0879-Mar-26	16:41:53	2329	71	-13862	82	P	-t	1.1410	0.7182	72N	162W	0		
0879-Sep-19	20:14:03	2325	71	-13856	87	P	-t	-1.0418	0.9300	72S	154E	0		
0880-Mar-14	18:31:50	2322	71	-13850	92	A	-p	0.3857	0.9645	21N	94W	67	138	03m59s
0880-Sep-08	09:01:56	2318	71	-13844	97	A	-p	-0.3492	0.9985	16S	47E	69	6	00m09s
0881-Mar-04	03:08:15	2315	71	-13838	102	H2	p-	-0.3625	1.0167	25S	152E	69	61	01m35s
0881-Aug-28	14:58:53	2312	70	-13832	107	A	p-	0.4043	0.9512	31N	28W	66	195	05m26s
0882-Feb-21	17:38:09	2308	70	-13826	112	P	t-	-1.0432	0.9308	71S	46E	0		
0882-Aug-17	15:29:17	2305	70	-13820	117	P	t-	1.1483	0.7065	71N	86E	0		
0883-Jan-12	22:58:07	2302	70	-13815	84	T	-t	0.9608	1.0057	53N	161W	15	73	00m27s
0883-Jul-08	05:30:33	2298	70	-13809	89	A	-p	-0.9080	0.9951	43S	104E	24	41	00m27s
0884-Jan-02	08:41:57	2295	70	-13803	94	A	-n	0.2895	0.9610	6S	61E	73	148	04m55s
0884-Jun-26	18:06:37	2291	70	-13797	99	Tm	nn	-0.1086	1.0596	17N	82W	84	197	05m43s

0884-Dec-21	11:02:32	2288	70	-13791	104	A	p-	-0.4102	0.9203	48S	23E	66	332	08m35s
0885-Jun-16	10:57:58	2284	70	-13785	109	T	p-	0.6321	1.0772	63N	16E	51	323	05m02s
0885-Dec-10	10:02:07	2281	70	-13779	114	P	t-	-1.0805	0.8163	65S	121W	0		
0886-May-07	18:49:08	2278	70	-13774	81	P	-t	-1.1925	0.6436	63S	43W	0		
0886-Jun-06	03:28:20	2278	70	-13773	119	P	t-	1.3945	0.2646	65N	19W	0		
0886-Oct-30	23:23:03	2275	70	-13768	86	P	-t	1.1407	0.7340	62N	107W	0		
0887-Apr-27	02:46:21	2271	70	-13762	91	A	-p	-0.4640	0.9664	10S	158E	62	135	03m49s
0887-Oct-20	13:06:34	2268	70	-13756	96	T	-n	0.4150	1.0461	10N	0W	65	168	03m59s
0888-Apr-15	04:11:44	2264	69	-13750	101	A	pn	0.2911	0.9414	27N	118E	73	225	06m22s
0888-Oct-09	05:11:09	2261	69	-13744	106	T	n-	-0.2716	1.0484	22S	100E	74	167	03m55s
0889-Apr-04	05:17:38	2258	69	-13738	111	P	t-	1.0219	0.9305	61N	7E	0		
0889-Sep-28	18:53:54	2254	69	-13732	116	P	t-	-1.0087	0.9746	61S	166E	0		
0890-Feb-23	01:48:52	2251	69	-13727	83	T-	-t	-1.0004	1.0007	61S	89W	0		
0890-Aug-19	10:46:54	2248	69	-13721	88	P	-t	1.0788	0.8270	61N	140E	0		
0891-Feb-12	17:10:36	2245	69	-13715	93	T	-n	-0.2857	1.0557	27S	56W	73	191	04m23s
0891-Aug-08	10:57:49	2241	69	-13709	98	A	np	0.3426	0.9458	33N	35E	70	211	05m42s
0892-Feb-02	08:54:27	2238	69	-13703	103	T	n-	0.4072	1.0320	7N	50E	66	117	02m57s
0892-Jul-27	14:41:09	2234	69	-13697	108	A	p-	-0.4218	0.9877	5S	39W	65	48	01m22s
0893-Jan-21	20:20:13	2231	69	-13691	113	P	t-	1.1539	0.7053	63N	161W	0		
0893-Jun-17	18:09:42	2228	69	-13686	80	P	-t	1.3917	0.2660	66N	83E	0		
0893-Jul-17	01:45:12	2228	69	-13685	118	P	t-	-1.1469	0.7326	63S	123E	0		
0893-Dec-12	05:25:32	2225	69	-13680	85	P	-t	-1.1333	0.7266	66S	82W	0		
0894-Jun-07	11:24:20	2221	69	-13674	90	T	-p	0.6574	1.0736	65N	19E	49	318	04m47s
0894-Dec-01	04:54:27	2218	68	-13668	95	A	-p	-0.4470	0.9324	49S	113E	63	283	06m56s
0895-May-28	03:00:03	2215	68	-13662	100	Tm	nn	-0.0910	1.0383	17N	143E	85	129	03m54s
0895-Nov-20	10:16:33	2211	68	-13656	105	A	n-	0.2638	0.9849	6S	34E	75	55	01m45s
0896-May-16	12:39:22	2208	68	-13650	110	A	p-	-0.8986	0.9727	44S	6E	26	224	02m43s
0896-Nov-08	22:40:27	2204	68	-13644	115	T	t-	0.9297	1.0251	49N	141W	21	234	01m57s
0897-Apr-05	23:34:53	2202	68	-13639	82	P	-t	1.2019	0.6158	72N	81E	0		
0897-Sep-30	04:27:17	2198	68	-13633	87	P	-t	-1.0741	0.8673	72S	16E	0		
0898-Mar-26	01:51:34	2195	68	-13627	92	A	-p	0.4360	0.9700	29N	154E	64	119	03m11s
0898-Sep-19	16:48:14	2192	68	-13621	97	A	-p	-0.3894	0.9919	22S	72W	67	31	00m50s
0899-Mar-15	11:01:32	2188	68	-13615	102	T	n-	-0.3213	1.0232	18S	32E	71	83	02m14s

0899-Sep-08	22:11:23	2185	68	-13609	107	A	p-	0.3536	0.9465	24N	138W	69	210	06m15s
0900-Mar-04	01:54:37	2181	68	-13603	112	P	t-	-1.0113	0.9932	72S	93W	0		
0900-Aug-27	22:23:29	2178	68	-13597	117	P	t-	1.0866	0.8103	72N	31W	0		

10TH CENTURY CE

In the 10th century CE the total number of solar eclipses was 227 solar eclipses: 76 partial solar eclipses, 84 annular solar eclipses (81 central annular solar eclipses with two limits, 2 central annular solar eclipses with one limit, 3 non-central annular solar eclipses with one limit), 66 total solar eclipses (65 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 1 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST										°	km
			ECLIPSE											
0901-Jan-23	07:33:10	2175	68	-13592	84	T	-t	0.9730	1.0042	58N	62E	13	67	00m19s
0901-Jul-18	12:33:21	2172	67	-13586	89	A	-t	-0.9785	0.9934	58S	10W	11	119	00m32s
0902-Jan-12	17:00:16	2169	67	-13580	94	A	-n	0.2978	0.9597	4S	65W	73	153	05m06s
0902-Jul-08	01:28:44	2165	67	-13574	99	T	nn	-0.1824	1.0609	12N	167E	80	203	05m55s
0903-Jan-01	19:04:52	2162	67	-13568	104	A	p-	-0.4033	0.9202	47S	94W	66	331	08m44s
0903-Jun-27	18:25:56	2159	67	-13562	109	T	p-	0.5586	1.0773	57N	89W	56	302	05m18s
0903-Dec-21	18:08:04	2155	67	-13556	114	P	t-	-1.0731	0.8291	66S	107E	0		
0904-May-18	02:00:15	2153	67	-13551	81	P	-t	-1.2686	0.5033	63S	161W	0		
0904-Jun-16	10:44:57	2152	67	-13550	119	P	t-	1.3251	0.3963	66N	138W	0		
0904-Nov-10	07:53:31	2149	67	-13545	86	P	-t	1.1470	0.7229	63N	116E	0		



0905-May-07	09:33:15	2146	67	-13539	91	A	-p	-0.5421	0.9649	13S	56E	57	149	04m07s
0905-Oct-30	21:44:24	2143	67	-13533	96	T	-n	0.4292	1.0449	8N	131W	65	164	03m59s
0906-Apr-26	10:50:26	2139	67	-13527	101	A	nn	0.2159	0.9440	26N	20E	77	211	06m15s
0906-Oct-20	13:41:10	2136	67	-13521	106	T	n-	-0.2519	1.0444	25S	27W	75	153	03m37s
0907-Apr-15	12:17:29	2133	67	-13515	111	A	t-	0.9550	0.9550	64N	71W	17	558	03m04s
0907-Oct-10	03:00:30	2129	67	-13509	116	A	p-	-0.9852	0.9869	63S	54E	9	292	00m47s
0908-Mar-05	09:56:07	2127	67	-13504	83	P	-t	-1.0309	0.9466	61S	140E	0		
0908-Aug-29	17:45:17	2123	66	-13498	88	P	-t	1.1401	0.7215	61N	26E	0		
0909-Feb-23	01:34:58	2120	66	-13492	93	T	-n	-0.3126	1.0587	24S	178E	72	203	04m36s
0909-Aug-18	17:48:22	2117	66	-13486	98	A	-p	0.4099	0.9442	33N	65W	66	224	05m44s
0910-Feb-12	17:19:36	2113	66	-13480	103	T	n-	0.3868	1.0325	9N	77W	67	118	02m56s
0910-Aug-07	21:48:43	2110	66	-13474	108	A	p-	-0.3527	0.9891	4S	146W	69	41	01m10s
0911-Feb-02	04:32:48	2107	66	-13468	113	P	t-	1.1410	0.7278	62N	66E	0		
0911-Jun-29	01:34:48	2104	66	-13463	80	P	-t	1.4599	0.1342	65N	39W	0		
0911-Jul-28	09:12:17	2104	66	-13462	118	P	t-	-1.0774	0.8639	63S	1E	0		
0911-Dec-23	13:26:30	2101	66	-13457	85	P	-t	-1.1405	0.7147	65S	147E	0		
0912-Jun-17	18:50:19	2098	66	-13451	90	T	-p	0.7322	1.0708	70N	81W	43	340	04m22s
0912-Dec-11	13:06:17	2094	66	-13445	95	A	-p	-0.4503	0.9341	50S	6W	63	276	06m38s
0913-Jun-07	10:09:51	2091	66	-13439	100	T	nn	-0.0135	1.0354	23N	36E	89	119	03m33s
0913-Nov-30	18:49:55	2088	66	-13433	105	A	n-	0.2603	0.9870	8S	95W	75	48	01m30s
0914-May-27	19:23:56	2085	66	-13427	110	A	p-	-0.8205	0.9728	33S	101W	35	171	03m00s
0914-Nov-20	07:26:34	2081	66	-13421	115	T	p-	0.9226	1.0258	47N	82E	22	229	02m04s
0915-Apr-17	06:20:55	2079	65	-13416	82	P	-t	1.2684	0.5030	71N	35W	0		
0915-Oct-11	12:48:19	2075	65	-13410	87	P	-t	-1.0999	0.8176	71S	124W	0		
0916-Apr-05	09:06:34	2072	65	-13404	92	A	-p	0.4910	0.9753	36N	42E	60	101	02m28s
0916-Sep-30	00:40:03	2069	65	-13398	97	A	-p	-0.4241	0.9855	29S	167E	65	56	01m27s
0917-Mar-25	18:49:45	2066	65	-13392	102	T	n-	-0.2750	1.0296	11S	88W	74	104	02m53s
0917-Sep-19	05:30:26	2062	65	-13386	107	A	n-	0.3090	0.9419	17N	110E	72	225	07m06s
0918-Mar-15	10:03:21	2059	65	-13380	112	T	t-	-0.9730	1.0489	68S	94E	13	738	02m53s
0918-Sep-08	05:27:27	2056	65	-13374	117	P	t-	1.0323	0.9011	72N	152W	0		
0919-Feb-03	16:00:47	2053	65	-13369	84	T	-t	0.9908	1.0020	65N	79W	6	62	00m09s
0919-Jul-29	19:43:59	2050	65	-13363	89	P	-t	-1.0436	0.9113	70S	137W	0		
0920-Jan-24	01:11:08	2047	65	-13357	94	A	-n	0.3114	0.9587	0S	172E	72	158	05m12s

0920-Jul-18	08:56:37	2043	65	-13351	99	T	-n	-0.2518	1.0615	6N	54E	75	209	05m59s
0921-Jan-12	03:02:20	2040	65	-13345	104	A	p-	-0.3926	0.9207	44S	149E	67	327	08m51s
0921-Jul-08	01:54:57	2037	65	-13339	109	T	p-	0.4863	1.0765	51N	163E	61	284	05m32s
0922-Jan-01	02:12:49	2034	65	-13333	114	P	t-	-1.0643	0.8446	67S	25W	0		
0922-May-29	09:05:16	2031	64	-13328	81	P	-t	-1.3482	0.3572	64S	83E	0		
0922-Jun-27	18:00:20	2031	64	-13327	119	P	t-	1.2556	0.5276	67N	102E	0		
0922-Nov-21	16:29:18	2028	64	-13322	86	P	-t	1.1495	0.7186	64N	23W	0		
0923-May-18	16:13:25	2025	64	-13316	91	A	-p	-0.6246	0.9629	17S	45W	51	170	04m28s
0923-Nov-11	06:28:57	2022	64	-13310	96	T	-n	0.4377	1.0440	6N	97E	64	162	04m01s
0924-May-06	17:22:34	2018	64	-13304	101	A	nn	0.1352	0.9462	25N	77W	82	200	06m12s
0924-Oct-30	22:17:26	2015	64	-13298	106	T	n-	-0.2379	1.0405	28S	156W	76	139	03m20s
0925-Apr-25	19:11:18	2012	64	-13292	111	A	t-	0.8822	0.9628	64N	157W	28	285	02m40s
0925-Oct-20	11:13:54	2009	64	-13286	116	A	p-	-0.9677	0.9827	65S	67W	14	250	01m03s
0926-Mar-16	17:55:26	2006	64	-13281	83	P	-t	-1.0685	0.8787	61S	11E	0		
0926-Sep-10	00:52:01	2003	64	-13275	88	P	-t	1.1940	0.6294	61N	90W	0		
0927-Mar-06	09:52:20	2000	64	-13269	93	T	-n	-0.3455	1.0617	22S	53E	70	214	04m50s
0927-Aug-30	00:47:27	1997	64	-13263	98	A	-p	0.4705	0.9425	32N	169W	62	238	05m51s
0928-Feb-24	01:38:20	1993	64	-13257	103	T	n-	0.3616	1.0332	11N	157E	69	119	02m55s
0928-Aug-18	05:04:26	1990	64	-13251	108	A	p-	-0.2893	0.9902	3S	105E	73	36	01m01s
0929-Feb-12	12:38:34	1987	63	-13245	113	P	t-	1.1234	0.7589	62N	64W	0		
0929-Jul-09	09:01:57	1984	63	-13240	80	Pe	-t	1.5267	0.0051	64N	161W	0		
0929-Aug-07	16:45:02	1984	63	-13239	118	P	t-	-1.0118	0.9879	62S	122W	0		
0930-Jan-02	21:25:57	1981	63	-13234	85	P	-t	-1.1489	0.7011	64S	17E	0		
0930-Jun-29	02:17:13	1978	63	-13228	90	T	-p	0.8060	1.0671	74N	173W	36	372	03m55s
0930-Dec-22	21:17:30	1975	63	-13222	95	A	-p	-0.4549	0.9364	50S	124W	63	266	06m17s
0931-Jun-18	17:19:41	1972	63	-13216	100	T	nn	0.0632	1.0318	27N	71W	86	108	03m06s
0931-Dec-12	03:24:47	1969	63	-13210	105	A	n-	0.2569	0.9896	9S	136E	75	38	01m11s
0932-Jun-07	02:05:39	1966	63	-13204	110	A	p-	-0.7406	0.9719	25S	155E	42	150	03m19s
0932-Nov-30	16:15:28	1962	63	-13198	115	T	p-	0.9175	1.0267	44N	56W	23	230	02m11s
0933-Apr-27	13:00:19	1960	63	-13193	82	P	-t	1.3401	0.3805	70N	148W	0		
0933-May-27	04:10:35	1959	63	-13192	120	Pb	t-	-1.5258	0.0629	68S	132E	0		
0933-Oct-21	21:15:59	1957	63	-13187	87	P	-t	-1.1196	0.7794	71S	95E	0		
0934-Apr-16	16:13:13	1954	63	-13181	92	A	-p	0.5537	0.9804	44N	67W	56	83	01m50s

0934-Oct-11	08:40:19	1950	63	-13175	97	A	-p	-0.4510	0.9794	35S	46E	63	82	02m01s
0935-Apr-06	02:30:24	1947	63	-13169	102	T	n-	-0.2216	1.0358	4S	154E	77	123	03m32s
0935-Sep-30	12:57:56	1944	63	-13163	107	A	nn	0.2717	0.9375	10N	4W	74	241	07m57s
0936-Mar-25	18:04:42	1941	62	-13157	112	T	t-	-0.9284	1.0555	59S	48W	21	496	03m37s
0936-Sep-18	12:40:53	1938	62	-13151	117	An	t-	0.9851	0.9215	70N	59E	9	-	05m59s
0937-Feb-14	00:21:12	1935	62	-13146	84	P	-t	1.0141	0.9687	71N	133E	0		
0937-Aug-09	03:00:51	1932	62	-13140	89	P	-t	-1.1043	0.8014	70S	101E	0		
0938-Feb-03	09:15:57	1929	62	-13134	94	A	-p	0.3293	0.9583	4N	49E	71	160	05m11s
0938-Jul-29	16:29:23	1926	62	-13128	99	T	-n	-0.3176	1.0614	1S	61W	71	212	05m55s
0939-Jan-23	10:54:36	1923	62	-13122	104	A	p-	-0.3778	0.9219	40S	33E	68	319	08m55s
0939-Jul-19	09:27:50	1920	62	-13116	109	T	p-	0.4173	1.0748	45N	51E	65	267	05m42s
0940-Jan-12	10:16:05	1917	62	-13110	114	P	t-	-1.0539	0.8630	68S	158W	0		
0940-Jun-08	16:07:34	1914	62	-13105	81	P	-t	-1.4290	0.2098	65S	33W	0		
0940-Jul-08	01:16:16	1914	62	-13104	119	P	t-	1.1869	0.6563	68N	18W	0		
0940-Dec-02	01:08:58	1911	62	-13099	86	P	-t	1.1497	0.7186	65N	163W	0		
0941-May-28	22:49:26	1908	62	-13093	91	A	-p	-0.7095	0.9603	22S	145W	45	203	04m49s
0941-Nov-21	15:17:20	1905	62	-13087	96	T	-n	0.4436	1.0436	4N	37W	64	162	04m05s
0942-May-17	23:50:24	1902	62	-13081	101	A	nn	0.0505	0.9481	23N	172W	87	191	06m15s
0942-Nov-11	06:58:41	1899	62	-13075	106	T	n-	-0.2282	1.0370	31S	75E	77	127	03m05s
0943-May-07	02:02:31	1896	61	-13069	111	A	p-	0.8059	0.9693	64N	114E	36	185	02m17s
0943-Oct-31	19:32:01	1893	61	-13063	116	A	p-	-0.9548	0.9783	68S	167E	17	265	01m19s
0944-Mar-27	01:48:33	1890	61	-13058	83	P	-t	-1.1120	0.7988	61S	117W	0		
0944-Apr-25	10:56:06	1890	61	-13057	121	Pb	t-	1.5044	0.0665	62N	97W	0		
0944-Sep-20	08:07:11	1887	61	-13052	88	P	-t	1.2405	0.5506	61N	152E	0		
0945-Mar-16	18:00:52	1884	61	-13046	93	T	-n	-0.3860	1.0644	19S	69W	67	227	05m05s
0945-Sep-09	07:56:50	1881	61	-13040	98	A	-p	0.5231	0.9407	31N	85E	58	253	06m03s
0946-Mar-06	09:46:52	1878	61	-13034	103	T	n-	0.3284	1.0338	13N	34E	71	120	02m56s
0946-Aug-29	12:30:54	1875	61	-13028	108	A	n-	-0.2338	0.9909	4S	7W	76	33	00m55s
0947-Feb-23	20:33:06	1872	61	-13022	113	P	t-	1.0973	0.8048	61N	168E	0		
0947-Aug-19	00:26:47	1869	61	-13016	118	T	t-	-0.9528	1.0357	51S	139E	17	393	02m29s
0948-Jan-14	05:21:56	1866	61	-13011	85	P	-t	-1.1603	0.6825	63S	112W	0		
0948-Jul-09	09:44:30	1863	61	-13005	90	T	-t	0.8792	1.0621	75N	104E	28	431	03m27s
0949-Jan-02	05:29:19	1860	61	-12999	95	A	-p	-0.4597	0.9394	49S	117E	62	253	05m54s

0949-Jun-29	00:26:45	1857	61	-12993	100	T	nn	0.1417	1.0274	31N	177W	82	94	02m36s
0949-Dec-22	12:01:23	1854	61	-12987	105	A	n-	0.2544	0.9929	9S	6E	75	26	00m47s
0950-Jun-18	08:43:35	1851	60	-12981	110	A	p-	-0.6581	0.9703	18S	53E	49	142	03m40s
0950-Dec-12	01:07:08	1848	60	-12975	115	T	p-	0.9143	1.0281	43N	166E	23	237	02m19s
0951-May-08	19:35:24	1846	60	-12970	82	P	-t	1.4152	0.2516	69N	100E	0		
0951-Jun-07	10:33:30	1845	60	-12969	120	P	t-	-1.4415	0.2072	67S	25E	0		
0951-Nov-02	05:48:38	1842	60	-12964	87	P	-t	-1.1350	0.7497	70S	47W	0		
0952-Apr-26	23:17:15	1839	60	-12958	92	A	-p	0.6194	0.9851	53N	175W	51	67	01m17s
0952-Oct-21	16:45:57	1836	60	-12952	97	A	-p	-0.4726	0.9736	40S	76W	62	107	02m32s
0953-Apr-16	10:05:41	1833	60	-12946	102	T	n-	-0.1628	1.0418	3N	38E	81	142	04m08s
0953-Oct-10	20:32:41	1830	60	-12940	107	A	nn	0.2408	0.9333	5N	120W	76	256	08m46s
0954-Apr-06	01:59:09	1827	60	-12934	112	T	p-	-0.8778	1.0611	50S	179W	28	418	04m20s
0954-Sep-29	20:04:15	1824	60	-12928	117	A	t-	0.9455	0.9220	61N	80W	18	913	06m47s
0955-Feb-25	08:32:07	1822	60	-12923	84	P	-t	1.0446	0.9128	72N	4W	0		
0955-Aug-20	10:27:50	1819	60	-12917	89	P	-t	-1.1575	0.7048	71S	24W	0		
0956-Feb-14	17:11:39	1816	60	-12911	94	A	-p	0.3540	0.9580	9N	72W	69	163	05m06s
0956-Aug-09	00:08:20	1813	60	-12905	99	T	-n	-0.3786	1.0607	7S	179W	68	215	05m43s
0957-Feb-02	18:39:38	1810	60	-12899	104	A	n-	-0.3574	0.9236	36S	83W	69	308	08m57s
0957-Jul-29	17:04:28	1807	59	-12893	109	T	n-	0.3519	1.0723	38N	63W	69	251	05m46s
0958-Jan-22	18:13:26	1804	59	-12887	114	P	t-	-1.0381	0.8910	69S	70E	0		
0958-Jun-19	23:06:47	1802	59	-12882	81	Pe	-t	-1.5110	0.0614	66S	148W	0		
0958-Jul-19	08:34:12	1801	59	-12881	119	P	t-	1.1204	0.7796	69N	140W	0		
0958-Dec-13	09:50:46	1799	59	-12876	86	P	-t	1.1488	0.7207	66N	56E	0		
0959-Jun-09	05:21:57	1796	59	-12870	91	A	-p	-0.7965	0.9569	29S	115E	37	259	05m06s
0959-Dec-03	00:08:39	1793	59	-12864	96	T	-n	0.4473	1.0435	3N	171W	63	162	04m10s
0960-May-28	06:15:14	1790	59	-12858	101	Am	nn	-0.0368	0.9497	20N	93E	88	185	06m21s
0960-Nov-21	15:44:36	1787	59	-12852	106	T	n-	-0.2229	1.0338	34S	56W	77	117	02m52s
0961-May-17	08:48:47	1784	59	-12846	111	A	p-	0.7245	0.9753	63N	25E	43	128	01m54s
0961-Nov-11	03:56:10	1781	59	-12840	116	A	p-	-0.9476	0.9739	71S	36E	18	298	01m35s
0962-Apr-07	09:34:42	1778	59	-12835	83	P	-t	-1.1614	0.7067	61S	118E	0		
0962-May-06	18:15:16	1778	59	-12834	121	P	t-	1.4335	0.1964	63N	144E	0		
0962-Oct-01	15:31:23	1776	59	-12829	88	P	-t	1.2793	0.4854	61N	32E	0		
0963-Mar-28	02:02:25	1773	59	-12823	93	T	-p	-0.4324	1.0668	18S	170E	64	240	05m20s

0963-Sep-20	15:16:23	1770	59	-12817	98	A	-p	0.5677	0.9391	29N	25W	55	269	06m18s
0964-Mar-16	17:48:13	1767	59	-12811	103	T	n-	0.2896	1.0344	15N	86W	73	120	02m57s
0964-Sep-08	20:05:16	1764	59	-12805	108	A	n-	-0.1839	0.9914	6S	120W	79	31	00m51s
0965-Mar-06	04:19:53	1761	58	-12799	113	P	t-	1.0655	0.8606	61N	42E	0		
0965-Aug-29	08:15:45	1758	58	-12793	118	T	t-	-0.8991	1.0377	47S	25E	26	284	02m41s
0966-Jan-24	13:11:43	1756	58	-12788	85	P	-t	-1.1765	0.6561	62S	121E	0		
0966-Jul-20	17:15:15	1753	58	-12782	90	T	-t	0.9491	1.0556	72N	23E	18	597	02m55s
0967-Jan-13	13:37:12	1750	58	-12776	95	A	-p	-0.4686	0.9430	47S	2W	62	238	05m28s
0967-Jul-10	07:36:01	1747	58	-12770	100	T	-n	0.2173	1.0225	34N	78E	77	79	02m04s
0968-Jan-02	20:35:30	1744	58	-12764	105	A	n-	0.2491	0.9967	8S	123W	76	12	00m21s
0968-Jun-28	15:22:04	1741	58	-12758	110	A	p-	-0.5765	0.9680	12S	49W	55	140	04m01s
0968-Dec-22	09:58:11	1738	58	-12752	115	T	p-	0.9105	1.0300	42N	28E	24	246	02m28s
0969-May-19	02:05:01	1736	58	-12747	82	Pe	-t	1.4944	0.1147	68N	9W	0		
0969-Jun-17	16:54:20	1735	58	-12746	120	P	t-	-1.3547	0.3557	66S	81W	0		
0969-Nov-12	14:26:48	1733	58	-12741	87	P	-t	-1.1457	0.7292	69S	171E	0		
0970-May-08	06:15:49	1730	58	-12735	92	A	-p	0.6906	0.9893	61N	78E	46	52	00m51s
0970-Nov-02	00:58:10	1727	58	-12729	97	A	-p	-0.4882	0.9684	45S	161E	61	130	02m59s
0971-Apr-27	17:35:18	1724	58	-12723	102	T	nn	-0.0984	1.0473	10N	76W	84	158	04m38s
0971-Oct-22	04:16:08	1721	58	-12717	107	A	nn	0.2172	0.9295	1S	122E	77	270	09m32s
0972-Apr-16	09:46:39	1718	57	-12711	112	T	p-	-0.8214	1.0660	41S	56E	34	376	05m04s
0972-Oct-10	03:36:44	1716	57	-12705	117	A	p-	0.9127	0.9216	54N	155E	24	724	07m31s
0973-Mar-07	16:34:49	1713	57	-12700	84	P	-t	1.0812	0.8458	72N	139W	0		
0973-Aug-30	18:03:07	1710	57	-12694	89	P	-t	-1.2045	0.6193	72S	152W	0		
0974-Feb-25	00:57:45	1707	57	-12688	94	A	-p	0.3857	0.9580	15N	169E	67	165	04m58s
0974-Aug-20	07:54:32	1705	57	-12682	99	T	-n	-0.4338	1.0594	14S	62E	64	216	05m25s
0975-Feb-14	02:17:36	1702	57	-12676	104	A	n-	-0.3315	0.9258	30S	162E	70	296	08m56s
0975-Aug-10	00:46:01	1699	57	-12670	109	T	n-	0.2908	1.0692	31N	179W	73	236	05m45s
0976-Feb-03	02:06:37	1696	57	-12664	114	A-	t-	-1.0183	0.9261	70S	61W	0		
0976-Jul-29	15:55:14	1693	57	-12658	119	P	t-	1.0572	0.8956	70N	98E	0		
0976-Dec-23	18:33:11	1691	57	-12653	86	P	-t	1.1481	0.7226	67N	85W	0		
0977-Jun-19	11:52:06	1688	57	-12647	91	A	-t	-0.8843	0.9526	39S	14E	28	373	05m16s
0977-Dec-13	09:01:34	1685	57	-12641	96	T	-n	0.4498	1.0439	3N	55E	63	164	04m16s
0978-Jun-08	12:39:17	1682	57	-12635	101	A	nn	-0.1247	0.9507	16N	2W	83	182	06m30s

0978-Dec-03	00:31:45	1679	57	-12629	106	T	n-	-0.2191	1.0311	35S	174E	77	108	02m41s
0979-May-28	15:35:28	1677	57	-12623	111	A	p-	0.6425	0.9806	60N	66W	50	90	01m34s
0979-Nov-22	12:23:25	1674	56	-12617	116	A	p-	-0.9440	0.9699	75S	98W	19	335	01m49s
0980-Apr-17	17:15:10	1671	56	-12612	83	P	-t	-1.2161	0.6034	62S	7W	0		
0980-May-17	01:31:56	1671	56	-12611	121	P	t-	1.3593	0.3337	63N	25E	0		
0980-Oct-11	23:03:15	1669	56	-12606	88	P	-t	1.3114	0.4319	61N	90W	0		
0981-Apr-07	09:55:40	1666	56	-12600	93	T	-p	-0.4857	1.0687	17S	52E	61	253	05m34s
0981-Sep-30	22:46:23	1663	56	-12594	98	A	-p	0.6044	0.9376	27N	138W	53	284	06m35s
0982-Mar-28	01:38:06	1660	56	-12588	103	T	n-	0.2419	1.0348	17N	156E	76	120	02m59s
0982-Sep-20	03:51:19	1657	56	-12582	108	A	n-	-0.1426	0.9916	8S	123E	82	30	00m49s
0983-Mar-17	11:55:12	1655	56	-12576	113	P	t-	1.0251	0.9316	61N	81W	0		
0983-Sep-09	16:13:11	1652	56	-12570	118	T	p-	-0.8518	1.0386	46S	94W	31	242	02m44s
0984-Feb-04	20:55:12	1649	56	-12565	85	P	-t	-1.1978	0.6211	62S	4W	0		
0984-Jul-31	00:49:05	1647	56	-12559	90	P	-t	1.0161	0.9872	62N	58W	0		
0984-Aug-29	08:35:34	1646	56	-12558	128	Pb	t-	-1.5263	0.0084	61S	18W	0		
0985-Jan-23	21:42:09	1644	56	-12553	95	A	-p	-0.4804	0.9472	44S	121W	61	220	05m00s
0985-Jul-20	14:44:57	1641	56	-12547	100	T	-p	0.2922	1.0170	36N	27W	73	61	01m31s
0986-Jan-13	05:08:41	1638	56	-12541	105	H	n-	0.2422	1.0011	7S	109E	76	4	00m07s
0986-Jul-09	22:00:29	1636	56	-12535	110	A	p-	-0.4953	0.9651	7S	150W	60	144	04m22s
0987-Jan-02	18:48:03	1633	56	-12529	115	T	p-	0.9056	1.0323	41N	109W	25	257	02m37s
0987-Jun-28	23:17:25	1630	55	-12523	120	P	t-	-1.2690	0.5023	65S	173E	0		
0987-Nov-23	23:08:36	1628	55	-12518	87	P	-t	-1.1532	0.7146	68S	28E	0		
0988-May-18	13:13:01	1625	55	-12512	92	A	-p	0.7636	0.9929	70N	26W	40	39	00m31s
0988-Nov-12	09:14:09	1622	55	-12506	97	A	-p	-0.4998	0.9636	49S	39E	60	152	03m23s
0989-May-08	01:01:46	1619	55	-12500	102	T	nn	-0.0305	1.0523	17N	170E	88	173	05m01s
0989-Nov-01	12:05:22	1617	55	-12494	107	A	nn	0.1989	0.9261	5S	4E	79	283	10m14s
0990-Apr-27	17:28:14	1614	55	-12488	112	T	p-	-0.7600	1.0700	33S	65W	40	349	05m45s
0990-Oct-21	11:18:35	1611	55	-12482	117	A	p-	0.8871	0.9211	48N	32E	27	644	08m09s
0991-Mar-19	00:27:54	1609	55	-12477	84	P	-t	1.1248	0.7659	72N	88E	0		
0991-Apr-17	10:00:00	1608	55	-12476	122	Pb	t-	-1.5014	0.0623	71S	88E	0		
0991-Sep-11	01:47:51	1606	55	-12471	89	P	-t	-1.2446	0.5463	72S	77E	0		
0991-Oct-10	14:31:15	1606	55	-12470	127	Pb	t-	1.5370	0.0321	71N	28E	0		
0992-Mar-07	08:33:49	1603	55	-12465	94	A	-p	0.4248	0.9580	21N	53E	65	168	04m48s

0992-Aug-30	15:48:46	1601	55	-12459	99	T	-p	-0.4826	1.0577	21S	60W	61	216	05m04s
0993-Feb-24	09:45:22	1598	55	-12453	104	A	nn	-0.2972	0.9283	24S	49E	73	281	08m51s
0993-Aug-20	08:33:34	1595	55	-12447	109	T	n-	0.2351	1.0654	24N	62E	76	220	05m37s
0994-Feb-13	09:51:51	1593	55	-12441	114	As	t-	-0.9912	0.9303	74S	151E	6	-	04m33s
0994-Aug-09	23:21:10	1590	54	-12435	119	T+	t-	0.9986	1.0016	70N	27W	0		
0995-Jan-04	03:13:37	1588	54	-12430	86	P	-t	1.1495	0.7207	68N	134E	0		
0995-Jun-30	18:22:37	1585	54	-12424	91	A	-t	-0.9708	0.9465	54S	88W	13	853	05m11s
0995-Dec-24	17:55:02	1582	54	-12418	96	T	-n	0.4518	1.0448	4N	80W	63	168	04m23s
0996-Jun-18	19:01:51	1579	54	-12412	101	A	nn	-0.2141	0.9514	11N	98W	78	182	06m39s
0996-Dec-13	09:21:07	1577	54	-12406	106	T	n-	-0.2176	1.0289	36S	44E	77	100	02m32s
0997-Jun-07	22:20:26	1574	54	-12400	111	A	p-	0.5580	0.9853	57N	159W	56	63	01m15s
0997-Dec-02	20:53:23	1571	54	-12394	116	A	p-	-0.9430	0.9663	79S	123E	19	374	02m02s
0998-Apr-29	00:49:42	1569	54	-12389	83	P	-t	-1.2762	0.4889	62S	130W	0		
0998-May-28	08:46:11	1569	54	-12388	121	P	t-	1.2820	0.4781	64N	94W	0		
0998-Oct-23	06:43:40	1566	54	-12383	88	P	-t	1.3364	0.3903	62N	146E	0		
0999-Apr-18	17:43:18	1564	54	-12377	93	T	-p	-0.5438	1.0700	17S	66W	57	268	05m47s
0999-Oct-12	06:24:39	1561	54	-12371	98	A	-p	0.6349	0.9364	26N	106E	50	299	06m55s
1000-Apr-07	09:21:31	1558	54	-12365	103	T	nn	0.1892	1.0348	19N	41E	79	119	03m01s
1000-Sep-30	11:45:47	1556	54	-12359	108	A	nn	-0.1076	0.9919	11S	4E	84	29	00m47s

## 2ND MILLENNIUM CE

In the 2nd millennium CE the total number of solar eclipses was 2 385 solar eclipses: 837 partial solar eclipses, 767 annular solar eclipses (745 central annular solar eclipses with two limits, 10 central annular solar eclipses with one limit, 12 non-central annular solar eclipses with one limit), 616 total solar eclipses

(608 central total solar eclipses with two limits, 3 central total solar eclipses with one limit, 5 non-central total solar eclipses with one limit), 165 hybrid solar eclipses.

# 11TH CENTURY CE

In the 11th century CE the total number of solar eclipses was 241 solar eclipses: 84 partial solar eclipses, 90 annular solar eclipses (90 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 61 total solar eclipses (61 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 6 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
GREATEST			S									°	km	
ECLIPSE														
1001-Mar-27	19:20:50	1553	54	-12353	113	A	p-	0.9775	0.9637	61N	178W	11	643	02m26s
1001-Sep-20	00:19:03	1550	54	-12347	118	T	p-	-0.8112	1.0388	46S	145E	36	218	02m43s
1002-Feb-15	04:30:39	1548	54	-12342	85	P	-t	-1.2255	0.5753	61S	127W	0		
1002-Aug-11	08:28:45	1545	53	-12336	90	P	-t	1.0777	0.8676	62N	177E	0		
1002-Sep-09	16:38:21	1545	53	-12335	128	P	t-	-1.4840	0.0911	61S	148W	0		
1003-Feb-04	05:39:59	1543	53	-12330	95	A	-p	-0.4989	0.9517	41S	121E	60	202	04m31s
1003-Jul-31	21:59:02	1540	53	-12324	100	H	-p	0.3620	1.0110	37N	132W	69	41	00m58s
1004-Jan-24	13:37:01	1537	53	-12318	105	H	n-	0.2305	1.0060	5S	19W	77	21	00m36s
1004-Jul-20	04:40:54	1535	53	-12312	110	A	p-	-0.4162	0.9618	4S	110E	65	151	04m42s
1005-Jan-13	03:34:43	1532	53	-12306	115	T	p-	0.8978	1.0352	41N	115E	26	267	02m48s



1005-Jul-09	05:42:12	1529	53	-12300	120	P	t-	-1.1837	0.6481	64S	67E	0		
1005-Dec-04	07:52:19	1527	53	-12295	87	P	-t	-1.1588	0.7038	67S	114W	0		
1006-May-29	20:07:36	1525	53	-12289	92	A	-p	0.8396	0.9955	80N	125W	33	29	00m18s
1006-Nov-23	17:34:32	1522	53	-12283	97	A	-p	-0.5074	0.9596	52S	83W	59	171	03m43s
1007-May-19	08:24:52	1519	53	-12277	102	Tm	nn	0.0409	1.0566	23N	59E	88	187	05m17s
1007-Nov-12	20:00:17	1517	53	-12271	107	A	nn	0.1856	0.9233	9S	116W	79	294	10m49s
1008-May-08	01:04:43	1514	53	-12265	112	T	p-	-0.6941	1.0734	25S	176E	46	330	06m22s
1008-Oct-31	19:08:42	1511	53	-12259	117	A	p-	0.8677	0.9207	43N	91W	29	602	08m43s
1009-Mar-29	08:10:54	1509	53	-12254	84	P	-t	1.1761	0.6720	72N	43W	0		
1009-Apr-27	17:32:59	1509	53	-12253	122	P	t-	-1.4446	0.1700	70S	39W	0		
1009-Sep-21	09:42:17	1507	53	-12248	89	P	-t	-1.2777	0.4862	72S	56W	0		
1009-Oct-20	22:36:04	1506	53	-12247	127	P	t-	1.5123	0.0752	71N	107W	0		
1010-Mar-18	15:59:54	1504	52	-12242	94	A	-p	0.4716	0.9581	28N	61W	62	172	04m36s
1010-Sep-10	23:51:05	1501	52	-12236	99	T	-p	-0.5251	1.0557	27S	177E	58	215	04m42s
1011-Mar-07	17:04:46	1499	52	-12230	104	A	nn	-0.2559	0.9311	17S	63W	75	266	08m44s
1011-Aug-31	16:27:45	1496	52	-12224	109	T	n-	0.1852	1.0612	17N	58W	79	204	05m25s
1012-Feb-24	17:31:51	1494	52	-12218	114	A	t-	-0.9593	0.9376	72S	12W	16	845	04m32s
1012-Aug-20	06:50:44	1491	52	-12212	119	T	p-	0.9438	1.0086	73N	144E	19	91	00m32s
1013-Jan-14	11:52:15	1489	52	-12207	86	P	-t	1.1530	0.7150	69N	8W	0		
1013-Jul-11	00:53:51	1486	52	-12201	91	P	-t	-1.0554	0.8699	68S	163E	0		
1014-Jan-04	02:45:36	1484	52	-12195	96	T	-n	0.4564	1.0462	5N	146E	63	173	04m29s
1014-Jun-30	01:27:16	1481	52	-12189	101	A	np	-0.3013	0.9515	5N	165E	73	186	06m45s
1014-Dec-24	18:08:39	1479	52	-12183	106	T	n-	-0.2153	1.0272	36S	85W	77	95	02m25s
1015-Jun-19	05:08:21	1476	52	-12177	111	A	p-	0.4748	0.9894	52N	105E	61	43	00m57s
1015-Dec-14	05:22:14	1473	52	-12171	116	A	p-	-0.9421	0.9633	82S	20W	19	407	02m14s
1016-May-09	08:20:46	1471	52	-12166	83	P	-t	-1.3396	0.3672	63S	108E	0		
1016-Jun-07	16:00:51	1471	52	-12165	121	P	t-	1.2043	0.6245	65N	147E	0		
1016-Nov-02	14:30:34	1469	52	-12160	88	P	-t	1.3559	0.3583	62N	20E	0		
1017-Apr-29	01:22:41	1466	52	-12154	93	T	-p	-0.6086	1.0706	19S	179E	52	286	05m56s
1017-Oct-22	14:13:16	1464	51	-12148	98	A	-p	0.6573	0.9356	24N	13W	49	311	07m14s
1018-Apr-18	16:54:46	1461	51	-12142	103	T	nn	0.1291	1.0344	20N	72W	82	117	03m03s
1018-Oct-11	19:50:49	1458	51	-12136	108	A	nn	-0.0807	0.9923	13S	117W	85	27	00m45s
1019-Apr-08	02:35:54	1456	51	-12130	113	A	p-	0.9223	0.9664	61N	87E	22	311	02m23s

1019-Oct-01	08:34:15	1453	51	-12124	118	T	p-	-0.7782	1.0386	48S	21E	39	202	02m40s
1020-Feb-26	11:58:35	1451	51	-12119	85	P	-t	-1.2592	0.5191	61S	112E	0		
1020-Aug-21	16:12:32	1449	51	-12113	90	P	-t	1.1354	0.7564	61N	52E	0		
1020-Sep-20	00:47:43	1448	51	-12112	128	P	t-	-1.4474	0.1624	61S	80E	0		
1021-Feb-14	13:33:22	1446	51	-12107	95	A	-p	-0.5217	0.9568	38S	4E	58	182	04m01s
1021-Aug-11	05:15:48	1444	51	-12101	100	H	-p	0.4286	1.0046	37N	121E	64	18	00m24s
1022-Feb-03	22:00:41	1441	51	-12095	105	H	n-	0.2142	1.0113	3S	145W	78	40	01m06s
1022-Jul-31	11:24:54	1439	51	-12089	110	A	pn	-0.3407	0.9580	1S	8E	70	161	05m03s
1023-Jan-24	12:17:54	1436	51	-12083	115	T	p-	0.8870	1.0385	41N	20W	27	276	03m00s
1023-Jul-20	12:11:23	1433	51	-12077	120	P	t-	-1.1015	0.7882	63S	41W	0		
1023-Dec-15	16:36:07	1431	51	-12072	87	P	-t	-1.1639	0.6941	66S	104E	0		
1024-Jun-09	03:03:57	1429	51	-12066	92	A	-p	0.9149	0.9971	88N	131W	23	25	00m10s
1024-Dec-04	01:56:09	1426	51	-12060	97	A	-p	-0.5129	0.9561	54S	156E	59	187	04m00s
1025-May-29	15:46:04	1424	51	-12054	102	T	nn	0.1145	1.0602	29N	52W	83	199	05m25s
1025-Nov-23	03:59:10	1421	50	-12048	107	A	nn	0.1759	0.9211	12S	124E	80	303	11m14s
1026-May-19	08:37:43	1419	50	-12042	112	T	p-	-0.6252	1.0758	18S	59E	51	314	06m52s
1026-Nov-12	03:05:00	1416	50	-12036	117	A	p-	0.8528	0.9208	39N	145E	31	574	09m08s
1027-Apr-09	15:45:01	1414	50	-12031	84	P	-t	1.2337	0.5666	71N	170W	0		
1027-May-09	01:00:42	1414	50	-12030	122	P	t-	-1.3841	0.2847	69S	163W	0		
1027-Oct-02	17:46:37	1412	50	-12025	89	P	-t	-1.3036	0.4390	72S	169E	0		
1027-Nov-01	06:48:52	1411	50	-12024	127	P	t-	1.4931	0.1087	70N	117E	0		
1028-Mar-28	23:15:20	1409	50	-12019	94	A	-p	0.5261	0.9579	36N	173W	58	179	04m24s
1028-Sep-21	08:01:13	1407	50	-12013	99	T	-p	-0.5611	1.0535	34S	51E	56	212	04m19s
1029-Mar-18	00:14:00	1404	50	-12007	104	A	nn	-0.2065	0.9342	10S	172W	78	250	08m31s
1029-Sep-11	00:29:22	1402	50	-12001	109	T	n-	0.1423	1.0567	10N	180E	82	189	05m07s
1030-Mar-07	01:01:47	1399	50	-11995	114	A	t-	-0.9185	0.9446	64S	148W	23	519	04m25s
1030-Aug-31	14:27:25	1397	50	-11989	119	H	p-	0.8958	1.0044	65N	7E	26	34	00m18s
1031-Jan-25	20:26:10	1395	50	-11984	86	P	-t	1.1606	0.7019	70N	149W	0		
1031-Jul-22	07:27:42	1392	50	-11978	91	P	-t	-1.1368	0.7288	69S	52E	0		
1032-Jan-15	11:33:32	1390	50	-11972	96	T	-n	0.4631	1.0479	7N	13E	62	179	04m36s
1032-Jul-10	07:55:02	1387	50	-11966	101	A	-p	-0.3865	0.9513	1S	66E	67	193	06m46s
1033-Jan-04	02:54:45	1385	50	-11960	106	T	n-	-0.2122	1.0260	34S	145E	78	91	02m21s
1033-Jun-29	11:57:04	1383	49	-11954	111	A	p-	0.3912	0.9928	46N	7E	67	27	00m40s

1033-Dec-24	13:51:08	1380	49	-11948	116	A	p-	-0.9419	0.9609	86S	180W	19	435	02m24s
1034-May-20	15:48:31	1378	49	-11943	83	P	-t	-1.4058	0.2393	64S	14W	0		
1034-Jun-18	23:16:17	1378	49	-11942	121	P	t-	1.1262	0.7723	66N	28E	0		
1034-Nov-13	22:23:12	1376	49	-11937	88	P	-t	1.3703	0.3347	63N	108W	0		
1035-May-10	08:58:25	1373	49	-11931	93	T	-p	-0.6762	1.0703	21S	64E	47	307	06m00s
1035-Nov-02	22:09:27	1371	49	-11925	98	A	-p	0.6737	0.9352	23N	134W	47	320	07m32s
1036-Apr-29	00:21:40	1368	49	-11919	103	Tm	nn	0.0643	1.0335	20N	178E	86	113	03m04s
1036-Oct-22	04:03:20	1366	49	-11913	108	A	nn	-0.0594	0.9928	16S	120E	87	25	00m42s
1037-Apr-18	09:42:34	1363	49	-11907	113	A	p-	0.8608	0.9679	61N	10W	30	225	02m21s
1037-Oct-11	16:57:18	1361	49	-11901	118	T	p-	-0.7512	1.0382	50S	105W	41	191	02m36s
1038-Mar-08	19:16:30	1359	49	-11896	85	P	-t	-1.3010	0.4489	61S	7W	0		
1038-Sep-02	00:03:56	1357	49	-11890	90	P	-t	1.1864	0.6588	61N	75W	0		
1038-Oct-01	09:05:26	1356	49	-11889	128	P	t-	-1.4178	0.2201	61S	53W	0		
1039-Feb-25	21:18:48	1354	49	-11884	95	A	-p	-0.5521	0.9620	36S	112W	56	163	03m31s
1039-Aug-22	12:38:18	1352	49	-11878	100	A	-p	0.4895	0.9980	36N	12E	61	8	00m10s
1040-Feb-15	06:17:42	1349	49	-11872	105	H2	n-	0.1916	1.0170	1S	90E	79	59	01m35s
1040-Aug-10	18:14:02	1347	49	-11866	110	A	nn	-0.2697	0.9539	0S	94W	74	174	05m24s
1041-Feb-03	20:54:07	1345	49	-11860	115	T	p-	0.8704	1.0424	40N	152W	29	283	03m13s
1041-Jul-30	18:45:38	1342	48	-11854	120	P	t-	-1.0227	0.9222	62S	149W	0		
1041-Dec-26	01:19:01	1340	48	-11849	87	P	-t	-1.1695	0.6837	65S	37W	0		
1042-Jun-20	10:01:08	1338	48	-11843	92	A	-t	0.9902	0.9959	72N	168W	7	125	00m13s
1042-Dec-15	10:17:49	1335	48	-11837	97	A	-p	-0.5179	0.9533	55S	36E	59	200	04m14s
1043-Jun-09	23:06:41	1333	48	-11831	102	T	nn	0.1893	1.0630	34N	161W	79	211	05m25s
1043-Dec-04	12:01:42	1331	48	-11825	107	A	nn	0.1691	0.9196	13S	4E	80	309	11m28s
1044-May-29	16:06:16	1328	48	-11819	112	T	p-	-0.5526	1.0775	11S	56W	56	300	07m12s
1044-Nov-22	11:07:44	1326	48	-11813	117	A	p-	0.8426	0.9213	36N	20E	32	555	09m24s
1045-Apr-19	23:10:08	1324	48	-11808	84	P	-t	1.2979	0.4492	71N	65E	0		
1045-May-19	08:21:46	1323	48	-11807	122	P	t-	-1.3185	0.4088	68S	74E	0		
1045-Oct-13	01:59:51	1321	48	-11802	89	P	-t	-1.3228	0.4039	71S	31E	0		
1045-Nov-11	15:08:59	1321	48	-11801	127	P	t-	1.4792	0.1327	69N	21W	0		
1046-Apr-09	06:20:54	1319	48	-11796	94	A	-p	0.5879	0.9576	44N	77E	54	190	04m11s
1046-Oct-02	16:19:50	1317	48	-11790	99	T	-p	-0.5903	1.0512	40S	76W	54	209	03m58s
1047-Mar-29	07:15:56	1314	48	-11784	104	A	nn	-0.1511	0.9373	3S	80E	81	236	08m15s

1047-Sep-22	08:36:48	1312	48	-11778	109	T	nn	0.1046	1.0519	4N	56E	84	173	04m47s
1048-Mar-17	08:26:29	1310	48	-11772	114	A	p-	-0.8727	0.9514	56S	89E	29	363	04m13s
1048-Sep-10	22:09:34	1307	48	-11766	119	A	p-	0.8531	0.9995	57N	120W	31	4	00m02s
1049-Feb-05	04:54:45	1305	48	-11761	86	P	-t	1.1733	0.6794	71N	71E	0		
1049-Mar-06	16:00:51	1305	48	-11760	124	Pb	t-	-1.5374	0.0137	72S	48E	0		
1049-Aug-01	14:05:37	1303	47	-11755	91	P	-t	-1.2141	0.5958	70S	60W	0		
1050-Jan-25	20:16:03	1301	47	-11749	96	T	-p	0.4745	1.0499	11N	120W	62	188	04m41s
1050-Jul-21	14:29:10	1298	47	-11743	101	A	-p	-0.4669	0.9506	8S	34W	62	204	06m42s
1051-Jan-15	11:35:06	1296	47	-11737	106	T	n-	-0.2049	1.0252	32S	17E	78	88	02m19s
1051-Jul-10	18:52:18	1294	47	-11731	111	A	p-	0.3120	0.9957	40N	95W	72	16	00m26s
1052-Jan-04	22:16:12	1291	47	-11725	116	A	p-	-0.9395	0.9591	86S	14W	20	446	02m33s
1052-May-30	23:13:51	1289	47	-11720	83	Pe	-t	-1.4742	0.1064	65S	135W	0		
1052-Jun-29	06:33:26	1289	47	-11719	121	P	t-	1.0488	0.9195	67N	92W	0		
1052-Nov-24	06:20:21	1287	47	-11714	88	P	-t	1.3808	0.3175	64N	123E	0		
1053-May-20	16:28:25	1285	47	-11708	93	T	-p	-0.7480	1.0690	26S	50W	41	336	05m55s
1053-Nov-13	06:13:14	1282	47	-11702	98	A	-p	0.6845	0.9355	22N	103E	47	324	07m44s
1054-May-10	07:40:20	1280	47	-11696	103	T	nn	-0.0066	1.0319	19N	69E	90	108	03m02s
1054-Nov-02	12:25:13	1278	47	-11690	108	A	nn	-0.0451	0.9937	19S	6W	87	22	00m37s
1055-Apr-29	16:40:27	1276	47	-11684	113	A	p-	0.7927	0.9687	61N	105W	37	183	02m22s
1055-Oct-23	01:27:42	1273	47	-11678	118	T	p-	-0.7302	1.0377	53S	128E	43	183	02m32s
1056-Mar-19	02:26:54	1271	47	-11673	85	P	-t	-1.3487	0.3680	61S	123W	0		
1056-Sep-12	08:01:31	1269	47	-11667	90	P	-t	1.2319	0.5726	61N	157E	0		
1056-Oct-11	17:30:21	1269	47	-11666	128	P	t-	-1.3943	0.2656	61S	171E	0		
1057-Mar-08	04:57:12	1267	47	-11661	95	A	-p	-0.5887	0.9675	34S	134E	54	142	03m01s
1057-Sep-01	20:06:19	1264	46	-11655	100	A	-p	0.5447	0.9912	35N	99W	57	37	00m46s
1058-Feb-25	14:28:37	1262	46	-11649	105	T	n-	0.1635	1.0229	1N	33W	81	79	02m05s
1058-Aug-22	01:09:08	1260	46	-11643	110	A	nn	-0.2044	0.9496	0S	163E	78	188	05m47s
1059-Feb-15	05:24:44	1258	46	-11637	115	T	p-	0.8492	1.0465	41N	78E	32	287	03m26s
1059-Aug-11	01:27:24	1255	46	-11631	120	A	t-	-0.9494	0.9337	50S	126E	18	776	06m10s
1060-Jan-06	09:59:28	1253	46	-11626	87	P	-t	-1.1766	0.6705	64S	177W	0		
1060-Feb-04	21:21:51	1253	46	-11625	125	Pb	t-	1.5334	0.0080	62N	168E	0		
1060-Jun-30	17:00:56	1251	46	-11620	92	P	-t	1.0641	0.8764	65N	83E	0		
1060-Dec-25	18:37:57	1249	46	-11614	97	A	-p	-0.5234	0.9511	54S	84W	58	211	04m26s

1061-Jun-20	06:28:11	1247	46	-11608	102	T	-n	0.2640	1.0651	39N	91E	74	221	05m20s
1061-Dec-14	20:03:46	1244	46	-11602	107	A	nn	0.1624	0.9187	14S	117W	81	312	11m29s
1062-Jun-09	23:33:59	1242	46	-11596	112	T	p-	-0.4793	1.0781	5S	170W	61	287	07m20s
1062-Dec-03	19:13:35	1240	46	-11590	117	A	p-	0.8342	0.9223	34N	105W	33	534	09m26s
1063-May-01	06:27:51	1238	46	-11585	84	P	-t	1.3668	0.3235	70N	58W	0		
1063-May-30	15:39:29	1238	46	-11584	122	P	t-	-1.2508	0.5365	67S	47W	0		
1063-Oct-24	10:20:31	1236	46	-11579	89	P	-t	-1.3369	0.3783	71S	108W	0		
1063-Nov-22	23:33:34	1235	46	-11578	127	P	t-	1.4682	0.1517	68N	159W	0		
1064-Apr-19	13:17:21	1234	46	-11573	94	A	-p	0.6563	0.9568	53N	30W	49	208	03m58s
1064-Oct-13	00:46:20	1231	46	-11567	99	T	-p	-0.6132	1.0490	46S	156E	52	205	03m40s
1065-Apr-08	14:06:42	1229	46	-11561	104	A	nn	-0.0864	0.9403	5N	25W	85	222	07m54s
1065-Oct-02	16:52:50	1227	46	-11555	109	T	nn	0.0747	1.0471	2S	70W	86	157	04m24s
1066-Mar-28	15:41:52	1225	45	-11549	114	A	p-	-0.8181	0.9582	47S	29W	35	262	03m57s
1066-Sep-22	05:59:25	1222	45	-11543	119	A	p-	0.8174	0.9941	50N	116E	35	35	00m29s
1067-Feb-16	13:16:34	1220	45	-11538	86	P	-t	1.1919	0.6454	71N	68W	0		
1067-Mar-17	23:50:53	1220	45	-11537	124	P	t-	-1.4939	0.0904	72S	84W	0		
1067-Aug-12	20:49:34	1218	45	-11532	91	P	-t	-1.2857	0.4735	71S	174W	0		
1068-Feb-06	04:53:47	1216	45	-11526	96	T	-p	0.4899	1.0521	15N	109E	61	197	04m46s
1068-Jul-31	21:07:30	1214	45	-11520	101	A	-p	-0.5441	0.9495	16S	137W	57	220	06m33s
1069-Jan-25	20:11:50	1212	45	-11514	106	T	n-	-0.1953	1.0249	28S	112W	79	86	02m19s
1069-Jul-21	01:51:38	1209	45	-11508	111	A	n-	0.2355	0.9979	33N	160E	76	8	00m13s
1070-Jan-15	06:36:58	1207	45	-11502	116	A	p-	-0.9346	0.9580	83S	175E	20	440	02m42s
1070-Jul-10	13:54:25	1205	45	-11496	121	T	t-	0.9739	1.0404	80N	134E	12	637	02m05s
1070-Dec-05	14:20:52	1203	45	-11491	88	P	-t	1.3881	0.3055	65N	7W	0		
1071-May-31	23:56:33	1201	45	-11485	93	T	-p	-0.8212	1.0667	32S	163W	35	381	05m38s
1071-Nov-24	14:21:31	1199	45	-11479	98	A	-p	0.6922	0.9362	21N	22W	46	325	07m51s
1072-May-20	14:54:47	1197	45	-11473	103	T	nn	-0.0800	1.0299	17N	39W	86	101	02m58s
1072-Nov-12	20:52:38	1194	45	-11467	108	A	nn	-0.0348	0.9948	22S	132W	88	18	00m31s
1073-May-09	23:30:30	1192	45	-11461	113	A	p-	0.7189	0.9690	60N	162E	44	160	02m27s
1073-Nov-02	10:05:09	1190	45	-11455	118	T	p-	-0.7149	1.0373	57S	0E	44	178	02m29s
1074-Mar-30	09:28:16	1188	44	-11450	85	P	-t	-1.4034	0.2746	61S	123E	0		
1074-Apr-29	01:23:40	1188	44	-11449	123	Pb	t-	1.4966	0.1151	62N	40E	0		
1074-Sep-23	16:06:39	1186	44	-11444	90	P	-t	1.2705	0.4999	61N	26E	0		

1074-Oct-23	02:01:43	1186	44	-11443	128	P	t-	-1.3766	0.2998	62S	34E	0			
1075-Mar-19	12:27:39	1184	44	-11438	95	A	-p	-0.6326	0.9728	32S	21E	51	123	02m31s	
1075-Sep-13	03:41:41	1182	44	-11432	100	A	-p	0.5928	0.9844	33N	148E	53	67	01m23s	
1076-Mar-07	22:31:47	1180	44	-11426	105	T	n-	0.1281	1.0290	4N	154W	83	99	02m34s	
1076-Sep-01	08:10:45	1177	44	-11420	110	A	nn	-0.1449	0.9452	1S	58E	82	204	06m13s	
1077-Feb-25	13:47:19	1175	44	-11414	115	T	p-	0.8214	1.0510	41N	50W	35	290	03m40s	
1077-Aug-21	08:17:06	1173	44	-11408	120	A	t-	-0.8818	0.9344	44S	27E	28	502	06m21s	
1078-Jan-16	18:34:25	1171	44	-11403	87	P	-t	-1.1878	0.6501	63S	44E	0			
1078-Feb-15	05:47:52	1171	44	-11402	125	P	t-	1.5158	0.0406	62N	32E	0			
1078-Jul-12	00:05:13	1169	44	-11397	92	P	-t	1.1351	0.7475	64N	33W	0			
1079-Jan-06	02:55:22	1167	44	-11391	97	A	-p	-0.5307	0.9495	52S	157E	58	219	04m35s	
1079-Jul-01	13:51:03	1165	44	-11385	102	T	-n	0.3381	1.0663	42N	17W	70	230	05m12s	
1079-Dec-26	04:06:04	1163	44	-11379	107	A	nn	0.1559	0.9185	14S	123E	81	313	11m18s	
1080-Jun-20	07:00:08	1161	44	-11373	112	T	p-	-0.4048	1.0779	0S	77E	66	275	07m18s	
1080-Dec-14	03:22:36	1158	44	-11367	117	A	p-	0.8281	0.9239	32N	129E	34	512	09m16s	
1081-May-11	13:37:20	1157	44	-11362	84	P	-t	1.4412	0.1881	69N	178W	0			
1081-Jun-09	22:52:31	1156	44	-11361	122	P	t-	-1.1800	0.6695	66S	166W	0			
1081-Nov-03	18:49:28	1155	44	-11356	89	P	-t	-1.3450	0.3635	70S	112E	0			
1081-Dec-03	08:03:22	1154	44	-11355	127	P	t-	1.4607	0.1641	67N	62E	0			
1082-Apr-30	20:06:10	1152	44	-11350	94	A	-p	0.7301	0.9556	62N	136W	43	237	03m46s	
1082-Oct-24	09:19:29	1150	43	-11344	99	T	-p	-0.6308	1.0470	52S	27E	51	201	03m24s	
1083-Apr-19	20:52:12	1148	43	-11338	104	A	nn	-0.0173	0.9432	12N	129W	89	210	07m28s	
1083-Oct-14	01:15:11	1146	43	-11332	109	T	nn	0.0504	1.0424	7S	163E	87	142	04m00s	
1084-Apr-07	22:51:59	1144	43	-11326	114	A	p-	-0.7585	0.9649	38S	143W	40	192	03m35s	
1084-Oct-02	13:55:20	1142	43	-11320	119	A	p-	0.7875	0.9887	43N	9W	38	64	01m00s	
1085-Feb-26	21:32:08	1140	43	-11315	86	P	-t	1.2162	0.6008	72N	154E	0			
1085-Mar-28	07:34:37	1140	43	-11314	124	P	t-	-1.4444	0.1790	72S	145E	0			
1085-Aug-23	03:40:33	1138	43	-11309	91	P	-t	-1.3505	0.3636	71S	70E	0			
1086-Feb-16	13:23:13	1136	43	-11303	96	T	-p	0.5119	1.0544	20N	21W	59	208	04m48s	
1086-Aug-12	03:55:29	1134	43	-11297	101	A	-p	-0.6133	0.9482	24S	117E	52	239	06m20s	
1087-Feb-06	04:40:52	1132	43	-11291	106	T	n-	-0.1801	1.0248	24S	121E	79	86	02m20s	
1087-Aug-01	08:58:35	1130	43	-11285	111	A	nn	0.1645	0.9996	26N	53E	80	1	00m02s	
1088-Jan-26	14:50:52	1128	43	-11279	116	A	p-	-0.9250	0.9575	79S	29E	22	415	02m50s	

1088-Jul-20	21:20:01	1125	43	-11273	121	T	t-	0.9024	1.0453	81N	83W	25	356	02m36s
1088-Dec-15	22:22:18	1124	43	-11268	88	P	-t	1.3947	0.2946	66N	138W	0		
1089-Jun-11	07:20:50	1122	43	-11262	93	T	-t	-0.8972	1.0629	40S	83E	26	469	05m05s
1089-Dec-04	22:34:48	1120	43	-11256	98	A	-p	0.6962	0.9378	21N	148W	46	321	07m48s
1090-May-31	22:03:40	1118	43	-11250	103	T	nn	-0.1572	1.0270	14N	145W	81	93	02m48s
1090-Nov-24	05:25:45	1115	43	-11244	108	A	nn	-0.0286	0.9965	24S	100E	88	12	00m21s
1091-May-21	06:14:27	1113	42	-11238	113	A	p-	0.6408	0.9687	59N	70E	50	146	02m37s
1091-Nov-13	18:48:53	1111	42	-11232	118	T	p-	-0.7047	1.0371	60S	128W	45	175	02m26s
1092-Apr-09	16:21:44	1110	42	-11227	85	P	-t	-1.4644	0.1698	61S	10E	0		
1092-May-09	07:54:59	1109	42	-11226	123	P	t-	1.4182	0.2480	63N	67W	0		
1092-Oct-04	00:18:23	1108	42	-11221	90	P	-t	1.3034	0.4389	61N	106W	0		
1092-Nov-02	10:39:32	1107	42	-11220	128	P	t-	-1.3644	0.3234	62S	105W	0		
1093-Mar-29	19:51:45	1106	42	-11215	95	A	-p	-0.6823	0.9782	32S	90W	47	103	02m02s
1093-Sep-23	11:23:46	1103	42	-11209	100	A	-p	0.6346	0.9777	32N	32E	50	101	02m03s
1094-Mar-19	06:28:09	1101	42	-11203	105	T	nn	0.0863	1.0350	6N	87E	85	118	03m04s
1094-Sep-12	15:20:24	1099	42	-11197	110	A	nn	-0.0923	0.9408	3S	50W	85	220	06m41s
1095-Mar-08	22:03:52	1097	42	-11191	115	T	p-	0.7883	1.0554	42N	175W	38	291	03m54s
1095-Sep-01	15:14:34	1095	42	-11185	120	A	p-	-0.8198	0.9343	41S	76W	35	414	06m24s
1096-Jan-28	03:04:28	1094	42	-11180	87	P	-t	-1.2026	0.6231	62S	93W	0		
1096-Feb-26	14:07:31	1093	42	-11179	125	P	t-	1.4936	0.0820	61N	102W	0		
1096-Jul-22	07:14:59	1092	42	-11174	92	P	-t	1.2024	0.6246	63N	150W	0		
1096-Aug-20	18:35:31	1091	42	-11173	130	Pb	t-	-1.5110	0.0742	61S	165W	0		
1097-Jan-16	11:07:01	1090	42	-11168	97	A	-p	-0.5420	0.9483	50S	37E	57	225	04m41s
1097-Jul-11	21:17:13	1088	42	-11162	102	T	-n	0.4098	1.0667	44N	125W	66	239	05m01s
1098-Jan-05	12:04:44	1086	42	-11156	107	A	nn	0.1465	0.9189	14S	4E	82	311	10m56s
1098-Jul-01	14:28:15	1084	42	-11150	112	T	n-	-0.3320	1.0768	4N	36W	71	263	07m05s
1098-Dec-25	11:30:22	1082	42	-11144	117	A	p-	0.8201	0.9263	31N	4E	35	483	08m53s
1099-May-22	20:42:01	1080	42	-11139	84	Pe	-t	1.5184	0.0484	68N	64E	0		
1099-Jun-21	06:05:10	1080	42	-11138	122	P	t-	-1.1093	0.8014	65S	75E	0		
1099-Nov-15	03:24:15	1078	41	-11133	89	P	-t	-1.3495	0.3553	69S	29W	0		
1099-Dec-14	16:34:59	1078	41	-11132	127	P	t-	1.4538	0.1756	66N	77W	0		
1100-May-11	02:46:31	1076	41	-11127	94	A	-p	0.8100	0.9537	72N	120E	36	291	03m36s
1100-Nov-03	17:59:37	1074	41	-11121	99	T	-p	-0.6429	1.0453	56S	102W	50	197	03m11s

# 12TH CENTURY CE

In the 12th century CE the total number of solar eclipses was 250 solar eclipses: 92 partial solar eclipses, 82 annular solar eclipses (81 central annular solar eclipses with two limits, 1 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 61 total solar eclipses (61 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 15 hybrid solar eclipses.

CALENDAR	TD	$\Delta T$	$\Delta T$	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST											
			ECLIPSE	S								°	km	
1101-Apr-30	03:29:09	1072	41	-11115	104	Am	nn	0.0593	0.9459	20N	130E	86	200	06m57s
1101-Oct-24	09:45:12	1070	41	-11109	109	T	nn	0.0329	1.0378	12S	35E	88	127	03m37s
1102-Apr-19	05:54:28	1068	41	-11103	114	A	p-	-0.6913	0.9714	29S	106E	46	141	03m07s
1102-Oct-13	21:59:21	1066	41	-11097	119	A	p-	0.7648	0.9833	38N	134W	40	91	01m35s
1103-Mar-10	05:40:48	1064	41	-11092	86	P	-t	1.2466	0.5442	72N	17E	0		
1103-Apr-08	15:12:05	1064	41	-11091	124	P	t-	-1.3890	0.2796	71S	17E	0		
1103-Sep-03	10:38:16	1062	41	-11086	91	P	-t	-1.4093	0.2647	72S	49W	0		
1103-Oct-03	03:17:46	1062	41	-11085	129	Pb	t-	1.5318	0.0555	72N	157W	0		
1104-Feb-27	21:46:53	1060	41	-11080	96	T	-p	0.5390	1.0568	25N	149W	57	221	04m49s
1104-Aug-22	10:50:37	1058	41	-11074	101	A	-p	-0.6771	0.9466	31S	9E	47	264	06m04s
1105-Feb-16	13:02:40	1056	41	-11068	106	T	nn	-0.1593	1.0249	19S	5W	81	86	02m23s
1105-Aug-11	16:12:31	1054	41	-11062	111	H	nn	0.0982	1.0008	19N	57W	84	3	00m05s
1106-Feb-05	22:58:13	1052	41	-11056	116	A	p-	-0.9107	0.9575	74S	107W	24	378	02m59s
1106-Aug-01	04:51:29	1050	41	-11050	121	T	p-	0.8348	1.0481	71N	142E	33	292	03m00s



1106-Dec-27	06:22:53	1049	41	-11045	88	P	-t	1.4019	0.2824	67N	91E	0	
1107-Jun-22	14:45:48	1047	41	-11039	93	T	-t	-0.9721	1.0570	54S	32W	13	833 04m10s
1107-Dec-16	06:49:54	1045	41	-11033	98	A	-p	0.6994	0.9398	21N	86E	45	312 07m35s
1108-Jun-11	05:09:13	1043	41	-11027	103	T	-n	-0.2363	1.0235	10N	109E	76	82 02m32s
1108-Dec-04	14:02:12	1041	40	-11021	108	A	nn	-0.0246	0.9986	25S	28W	88	5 00m08s
1109-May-31	12:53:42	1039	40	-11015	113	A	p-	0.5597	0.9678	56N	22W	56	140 02m51s
1109-Nov-24	03:36:08	1037	40	-11009	118	T	p-	-0.6974	1.0372	63S	105E	45	175 02m26s
1110-Apr-20	23:08:06	1035	40	-11004	85	Pe	-t	-1.5309	0.0546	62S	101W	0	
1110-May-20	14:22:23	1035	40	-11003	123	P	t-	1.3363	0.3875	64N	174W	0	
1110-Oct-15	08:37:39	1034	40	-10998	90	P	-t	1.3296	0.3906	61N	121E	0	
1110-Nov-13	19:22:16	1033	40	-10997	128	P	t-	-1.3569	0.3379	63S	115E	0	
1111-Apr-10	03:09:33	1032	40	-10992	95	A	-p	-0.7382	0.9833	32S	160E	42	86 01m34s
1111-Oct-04	19:12:27	1030	40	-10986	100	A	-p	0.6700	0.9712	30N	85W	48	136 02m44s
1112-Mar-29	14:17:26	1028	40	-10980	105	T	nn	0.0379	1.0410	8N	30W	88	137 03m34s
1112-Sep-22	22:38:21	1026	40	-10974	110	Am	nn	-0.0470	0.9365	5S	159W	87	237 07m13s
1113-Mar-19	06:10:34	1024	40	-10968	115	T	p-	0.7471	1.0598	43N	64E	41	290 04m08s
1113-Sep-11	22:22:37	1022	40	-10962	120	A	p-	-0.7659	0.9336	40S	178E	40	373 06m24s
1114-Feb-07	11:26:40	1020	40	-10957	87	P	-t	-1.2233	0.5856	62S	132E	0	
1114-Mar-08	22:17:22	1020	40	-10956	125	P	t-	1.4643	0.1366	61N	126E	0	
1114-Aug-02	14:31:42	1018	40	-10951	92	P	-t	1.2647	0.5105	62N	91E	0	
1114-Sep-01	01:57:45	1018	40	-10950	130	P	t-	-1.4528	0.1773	61S	76E	0	
1115-Jan-27	19:12:28	1017	40	-10945	97	A	-p	-0.5577	0.9477	47S	82W	56	230 04m46s
1115-Jul-23	04:47:49	1015	40	-10939	102	T	-p	0.4783	1.0663	46N	127E	61	246 04m50s
1116-Jan-16	20:00:53	1013	40	-10933	107	A	nn	0.1351	0.9200	12S	115W	82	306 10m27s
1116-Jul-11	21:56:16	1011	40	-10927	112	T	n-	-0.2594	1.0748	7N	148W	75	251 06m46s
1117-Jan-04	19:38:47	1009	40	-10921	117	A	p-	0.8122	0.9292	31N	122W	35	450 08m19s
1117-Jul-01	13:16:23	1007	39	-10915	122	P	t-	-1.0377	0.9336	64S	43W	0	
1117-Nov-25	12:04:07	1005	39	-10910	89	P	-t	-1.3506	0.3532	68S	171W	0	
1117-Dec-25	01:07:33	1005	39	-10909	127	P	t-	1.4470	0.1867	65N	145E	0	
1118-May-22	09:22:18	1004	39	-10904	94	A	-t	0.8927	0.9508	84N	6E	26	406 03m27s
1118-Nov-15	02:45:09	1002	39	-10898	99	T	-p	-0.6511	1.0439	60S	131E	49	194 03m01s
1119-May-11	10:02:56	1000	39	-10892	104	A	nn	0.1386	0.9484	27N	31E	82	192 06m24s
1119-Nov-04	18:19:34	998	39	-10886	109	T	nn	0.0194	1.0336	16S	94W	89	113 03m14s

1120-Apr-29	12:53:49	996	39	-10880	114	A	p-	-0.6206	0.9777	21S	3W	51	101	02m34s
1120-Oct-24	06:09:08	994	39	-10874	119	A	p-	0.7479	0.9781	33N	100E	41	117	02m12s
1121-Mar-20	13:41:25	993	39	-10869	86	P	-t	1.2839	0.4737	72N	117W	0		
1121-Apr-18	22:43:11	992	39	-10868	124	P	t-	-1.3276	0.3928	71S	109W	0		
1121-Sep-13	17:45:15	991	39	-10863	91	P	-t	-1.4600	0.1803	72S	170W	0		
1121-Oct-13	10:56:22	990	39	-10862	129	P	t-	1.5061	0.1012	71N	74E	0		
1122-Mar-10	06:01:25	989	39	-10857	96	T	-p	0.5736	1.0588	32N	84E	55	235	04m47s
1122-Sep-02	17:56:07	987	39	-10851	101	A	-p	-0.7328	0.9449	39S	102W	43	295	05m48s
1123-Feb-27	21:15:07	985	39	-10845	106	Tm	nn	-0.1313	1.0251	13S	129W	82	86	02m27s
1123-Aug-22	23:36:10	983	39	-10839	111	H	nn	0.0391	1.0016	12N	169W	88	6	00m10s
1124-Feb-17	06:56:03	981	39	-10833	116	A	p-	-0.8894	0.9581	68S	123E	27	335	03m08s
1124-Aug-11	12:28:45	980	39	-10827	121	T	p-	0.7716	1.0496	61N	20E	39	259	03m19s
1125-Jan-06	14:21:25	978	39	-10822	88	P	-t	1.4105	0.2677	68N	40W	0		
1125-Jul-02	22:10:01	976	39	-10816	93	P	-t	-1.0468	0.9295	67S	152W	0		
1125-Aug-01	05:15:05	976	39	-10815	131	Pb	t-	1.4667	0.1197	70N	110W	0		
1125-Dec-26	15:05:27	974	39	-10810	98	A	-p	0.7026	0.9426	22N	40W	45	298	07m10s
1126-Jun-22	12:12:35	973	38	-10804	103	T	-p	-0.3160	1.0193	5N	2E	72	69	02m09s
1126-Dec-15	22:41:44	971	38	-10798	108	H	nn	-0.0228	1.0013	25S	156W	89	5	00m08s
1127-Jun-11	19:28:54	969	38	-10792	113	A	p-	0.4757	0.9665	52N	114W	61	138	03m10s
1127-Dec-05	12:27:04	967	38	-10786	118	T	p-	-0.6931	1.0377	66S	21W	46	176	02m28s
1128-May-30	20:45:53	965	38	-10780	123	P	t-	1.2508	0.5336	64N	80E	0		
1128-Oct-25	17:03:18	964	38	-10775	90	P	-t	1.3504	0.3530	62N	15W	0		
1128-Nov-24	04:09:23	963	38	-10774	128	P	t-	-1.3531	0.3452	64S	26W	0		
1129-Apr-20	10:21:07	962	38	-10769	95	A	-p	-0.8000	0.9879	35S	52E	37	69	01m08s
1129-Oct-15	03:08:29	960	38	-10763	100	A	-p	0.6986	0.9651	29N	154E	46	172	03m27s
1130-Apr-09	22:01:14	958	38	-10757	105	T	nn	-0.0160	1.0466	9N	146W	89	155	04m04s
1130-Oct-04	06:03:38	956	38	-10751	110	A	nn	-0.0081	0.9324	7S	90E	89	253	07m48s
1131-Mar-30	14:11:45	955	38	-10745	115	T	p-	0.7012	1.0639	44N	56W	45	289	04m23s
1131-Sep-23	05:39:50	953	38	-10739	120	A	p-	-0.7189	0.9328	41S	69E	44	351	06m24s
1132-Feb-18	19:41:31	951	38	-10734	87	P	-t	-1.2495	0.5381	61S	0W	0		
1132-Mar-19	06:19:23	951	38	-10733	125	P	t-	1.4292	0.2023	61N	3W	0		
1132-Aug-12	21:55:19	950	38	-10728	92	P	-t	1.3222	0.4050	62N	29W	0		
1132-Sep-11	09:29:09	949	38	-10727	130	P	t-	-1.4007	0.2694	61S	46W	0		

1133-Feb-07	03:10:04	948	38	-10722	97	A	-p	-0.5794	0.9473	44S	161E	54	235	04m49s
1133-Aug-02	12:24:22	946	38	-10716	102	T	-p	0.5423	1.0652	46N	17E	57	252	04m38s
1134-Jan-27	03:49:17	944	38	-10710	107	A	nn	0.1171	0.9217	11S	128E	83	298	09m54s
1134-Jul-23	05:29:14	942	38	-10704	112	T	n-	-0.1910	1.0720	9N	99E	79	238	06m21s
1135-Jan-16	03:43:13	941	38	-10698	117	A	p-	0.7997	0.9329	31N	114E	37	410	07m39s
1135-Jul-12	20:28:44	939	37	-10692	122	T	t-	-0.9677	1.0179	51S	148W	14	248	01m25s
1135-Dec-06	20:46:52	937	37	-10687	89	P	-t	-1.3502	0.3537	67S	47E	0		
1136-Jan-05	09:38:51	937	37	-10686	127	P	t-	1.4383	0.2009	64N	7E	0		
1136-Jun-01	15:52:54	936	37	-10681	94	A	-t	0.9790	0.9459	78N	125E	11	1061	03m18s
1136-Nov-25	11:35:02	934	37	-10675	99	T	-p	-0.6557	1.0430	63S	4E	49	191	02m54s
1137-May-21	16:30:19	932	37	-10669	104	A	nn	0.2235	0.9504	35N	66W	77	187	05m51s
1137-Nov-15	03:00:17	930	37	-10663	109	Tm	nn	0.0117	1.0297	20S	136E	89	101	02m53s
1138-May-10	19:48:29	928	37	-10657	114	A	p-	-0.5447	0.9835	14S	110W	57	69	01m58s
1138-Nov-04	14:24:37	927	37	-10651	119	A	p-	0.7362	0.9732	29N	27W	42	141	02m51s
1139-Mar-31	21:35:37	925	37	-10646	86	P	-t	1.3272	0.3915	72N	110E	0		
1139-Apr-30	06:09:58	925	37	-10645	124	P	t-	-1.2616	0.5158	70S	126E	0		
1139-Sep-25	01:00:34	923	37	-10640	91	P	-t	-1.5037	0.1082	72S	67E	0		
1139-Oct-24	18:42:02	923	37	-10639	129	P	t-	1.4860	0.1368	71N	56W	0		
1140-Mar-20	14:08:47	922	37	-10634	96	T	-p	0.6142	1.0607	39N	41W	52	251	04m42s
1140-Sep-13	01:10:20	920	37	-10628	101	A	-p	-0.7819	0.9431	47S	144E	38	333	05m31s
1141-Mar-10	05:19:39	918	37	-10622	106	T	nn	-0.0972	1.0254	7S	108E	84	87	02m30s
1141-Sep-02	07:08:32	917	37	-10616	111	H	nn	-0.0135	1.0021	5N	76E	89	7	00m13s
1142-Feb-27	14:44:56	915	37	-10610	116	A	p-	-0.8615	0.9589	61S	3W	30	294	03m17s
1142-Aug-22	20:14:09	913	37	-10604	121	T	p-	0.7148	1.0504	53N	101W	44	238	03m36s
1143-Jan-17	22:16:46	912	37	-10599	88	P	-t	1.4214	0.2492	69N	170W	0		
1143-Jul-14	05:36:15	910	37	-10593	93	P	-t	-1.1194	0.7890	68S	85E	0		
1143-Aug-12	12:57:32	910	37	-10592	131	P	t-	1.4088	0.2323	71N	122E	0		
1144-Jan-06	23:19:53	908	37	-10587	98	A	-p	0.7074	0.9459	24N	167W	45	282	06m36s
1144-Jul-02	19:15:45	906	36	-10581	103	H	-p	-0.3948	1.0145	1S	105W	67	54	01m39s
1144-Dec-26	07:20:28	905	36	-10575	108	H	nn	-0.0196	1.0046	24S	75E	89	16	00m28s
1145-Jun-22	02:02:40	903	36	-10569	113	A	p-	0.3910	0.9645	47N	152E	67	140	03m35s
1145-Dec-15	21:18:43	901	36	-10563	118	T	p-	-0.6892	1.0387	67S	145W	46	180	02m32s
1146-Jun-11	03:09:11	900	36	-10557	123	P	t-	1.1642	0.6816	65N	25W	0		

1146-Nov-06	01:33:44	898	36	-10552	90	P	-t	1.3668	0.3234	63N	152W	0		
1146-Dec-05	12:57:31	898	36	-10551	128	P	t-	-1.3508	0.3499	65S	168W	0		
1147-May-01	17:28:47	896	36	-10546	95	A	-p	-0.8658	0.9918	39S	55W	30	57	00m45s
1147-Oct-26	11:11:02	895	36	-10540	100	A	-p	0.7209	0.9595	28N	32E	44	207	04m11s
1148-Apr-20	05:37:49	893	36	-10534	105	Tm	nn	-0.0765	1.0520	10N	100E	86	173	04m35s
1148-Oct-14	13:38:02	891	36	-10528	110	A	nn	0.0230	0.9286	10S	24W	89	268	08m26s
1149-Apr-09	22:03:58	890	36	-10522	115	T	p-	0.6480	1.0676	45N	172W	49	287	04m38s
1149-Oct-03	13:08:07	888	36	-10516	120	A	p-	-0.6803	0.9320	43S	43W	47	339	06m24s
1150-Mar-01	03:46:19	886	36	-10511	87	P	-t	-1.2834	0.4766	61S	131W	0		
1150-Mar-30	14:11:30	886	36	-10510	125	P	t-	1.3867	0.2819	61N	130W	0		
1150-Aug-24	05:28:31	885	36	-10505	92	P	-t	1.3728	0.3119	61N	152W	0		
1150-Sep-22	17:11:57	884	36	-10504	130	P	t-	-1.3569	0.3471	61S	171W	0		
1151-Feb-18	10:59:58	883	36	-10499	97	A	-p	-0.6069	0.9473	42S	44E	52	240	04m52s
1151-Aug-13	20:06:06	881	36	-10493	102	T	-p	0.6024	1.0635	45N	96W	53	258	04m26s
1152-Feb-07	11:32:51	880	36	-10487	107	A	nn	0.0951	0.9238	8S	12E	85	288	09m19s
1152-Aug-02	13:04:55	878	36	-10481	112	T	nn	-0.1251	1.0685	9N	14W	83	225	05m55s
1153-Jan-26	11:44:10	876	36	-10475	117	A	p-	0.7840	0.9372	31N	9W	38	367	06m53s
1153-Jul-23	03:42:34	875	36	-10469	122	T	p-	-0.8995	1.0161	42S	105E	26	125	01m22s
1153-Dec-17	05:31:57	873	35	-10464	89	P	-t	-1.3487	0.3562	66S	95W	0		
1154-Jan-15	18:08:13	873	35	-10463	127	P	t-	1.4274	0.2191	63N	130W	0		
1154-Jun-12	22:21:49	872	35	-10458	94	P	-t	1.0655	0.8531	66N	17E	0		
1154-Dec-06	20:26:33	870	35	-10452	99	T	-p	-0.6592	1.0425	65S	121W	48	190	02m50s
1155-Jun-01	22:57:40	868	35	-10446	104	A	np	0.3087	0.9520	41N	162W	72	185	05m19s
1155-Nov-26	11:43:34	867	35	-10440	109	T	nn	0.0063	1.0263	22S	6E	90	89	02m34s
1156-May-21	02:40:41	865	35	-10434	114	A	p-	-0.4657	0.9889	6S	144E	62	44	01m21s
1156-Nov-14	22:44:25	863	35	-10428	119	A	p-	0.7287	0.9687	26N	155W	43	164	03m28s
1157-Apr-11	05:22:56	862	35	-10423	86	P	-t	1.3767	0.2965	71N	21W	0		
1157-May-10	13:32:50	862	35	-10422	124	P	t-	-1.1912	0.6485	69S	3E	0		
1157-Oct-05	08:25:10	860	35	-10417	91	P	-t	-1.5396	0.0495	72S	59W	0		
1157-Nov-04	02:33:54	860	35	-10416	129	P	t-	1.4710	0.1634	70N	173E	0		
1158-Mar-31	22:07:21	859	35	-10411	96	T	-p	0.6622	1.0621	46N	164W	48	271	04m33s
1158-Sep-24	08:36:05	857	35	-10405	101	A	-p	-0.8222	0.9415	55S	27E	34	378	05m15s
1159-Mar-21	13:14:35	855	35	-10399	106	T	nn	-0.0558	1.0254	0S	13W	87	87	02m32s

1159-Sep-13	14:50:25	854	35	-10393	111	H	nn	-0.0591	1.0023	2S	42W	87	8	00m15s
1160-Mar-09	22:23:35	852	35	-10387	116	A	p-	-0.8260	0.9599	54S	125W	34	256	03m28s
1160-Sep-02	04:07:26	850	35	-10381	121	T	p-	0.6641	1.0504	45N	137E	48	222	03m49s
1161-Jan-28	06:05:38	849	35	-10376	88	P	-t	1.4375	0.2215	70N	60E	0		
1161-Jul-24	13:04:49	848	35	-10370	93	P	-t	-1.1894	0.6541	69S	39W	0		
1161-Aug-22	20:46:33	847	35	-10369	131	P	t-	1.3564	0.3339	71N	9W	0		
1162-Jan-17	07:31:44	846	35	-10364	98	A	-p	0.7149	0.9499	26N	68E	44	262	05m54s
1162-Jul-14	02:19:34	844	35	-10358	103	H	-p	-0.4722	1.0091	7S	147E	62	35	01m02s
1163-Jan-06	15:58:36	843	35	-10352	108	H	nn	-0.0151	1.0084	23S	53W	89	29	00m51s
1163-Jul-03	08:36:00	841	34	-10346	113	A	pn	0.3065	0.9620	41N	56E	72	145	04m06s
1163-Dec-27	06:11:23	839	34	-10340	118	T	p-	-0.6861	1.0400	67S	92E	46	185	02m38s
1164-Jun-21	09:30:32	838	34	-10334	123	P	t-	1.0754	0.8335	66N	131W	0		
1164-Nov-16	10:09:39	836	34	-10329	90	P	-t	1.3785	0.3029	63N	70E	0		
1164-Dec-15	21:48:00	836	34	-10328	128	P	t-	-1.3508	0.3501	66S	49E	0		
1165-May-12	00:33:02	835	34	-10323	95	A	-p	-0.9349	0.9946	46S	160W	20	53	00m28s
1165-Nov-05	19:19:13	833	34	-10317	100	A	-p	0.7378	0.9544	27N	93W	42	242	04m55s
1166-May-01	13:10:59	832	34	-10311	105	T	nn	-0.1406	1.0567	10N	12W	82	189	05m06s
1166-Oct-25	21:19:36	830	34	-10305	110	A	nn	0.0477	0.9253	12S	139W	87	282	09m05s
1167-Apr-21	05:51:36	828	34	-10299	115	T	p-	0.5907	1.0709	46N	74E	54	284	04m53s
1167-Oct-14	20:44:38	827	34	-10293	120	A	p-	-0.6478	0.9313	45S	156W	49	332	06m24s
1168-Mar-11	11:43:05	826	34	-10288	87	P	-t	-1.3232	0.4046	61S	101E	0		
1168-Apr-09	21:56:31	825	34	-10287	125	P	t-	1.3391	0.3713	62N	105E	0		
1168-Sep-03	13:10:23	824	34	-10282	92	P	-t	1.4174	0.2300	61N	84E	0		
1168-Oct-03	01:04:21	824	34	-10281	130	P	t-	-1.3197	0.4129	61S	62E	0		
1169-Feb-28	18:38:34	822	34	-10276	97	A	-p	-0.6430	0.9473	39S	70W	50	248	04m55s
1169-Aug-24	03:55:56	821	34	-10270	102	T	-p	0.6561	1.0612	44N	149E	49	263	04m15s
1170-Feb-17	19:07:03	819	34	-10264	107	A	nn	0.0652	0.9264	6S	101W	86	277	08m46s
1170-Aug-13	20:46:46	818	34	-10258	112	T	nn	-0.0647	1.0645	9N	129W	86	211	05m28s
1171-Feb-06	19:38:26	816	34	-10252	117	A	p-	0.7618	0.9421	32N	130W	40	321	06m05s
1171-Aug-03	11:00:14	815	34	-10246	122	T	p-	-0.8350	1.0126	36S	5W	33	77	01m06s
1171-Dec-28	14:16:37	813	34	-10241	89	P	-t	-1.3483	0.3565	65S	124E	0		
1172-Jan-27	02:33:01	813	34	-10240	127	P	t-	1.4122	0.2452	62N	94E	0		
1172-Jun-23	04:47:34	812	34	-10235	94	P	-t	1.1539	0.7005	65N	90W	0		

1172-Dec-17	05:20:02	810	33	-10229	99	T	-p	-0.6614	1.0426	65S	114E	48	190	02m49s
1173-Jun-12	05:22:41	809	33	-10223	104	A	-p	0.3965	0.9531	47N	105E	66	187	04m51s
1173-Dec-06	20:29:26	807	33	-10217	109	T	nn	0.0035	1.0234	23S	125W	90	80	02m17s
1174-Jun-01	09:31:46	805	33	-10211	114	A	p-	-0.3843	0.9938	0N	40E	67	24	00m45s
1174-Nov-26	07:08:28	804	33	-10205	119	A	p-	0.7250	0.9648	24N	76E	43	185	04m02s
1175-Apr-22	13:04:54	803	33	-10200	86	P	-t	1.4308	0.1918	70N	149W	0		
1175-May-21	20:52:57	802	33	-10199	124	P	t-	-1.1177	0.7881	68S	119W	0		
1175-Oct-16	15:57:42	801	33	-10194	91	Pe	-t	-1.5689	0.0021	71S	174E	0		
1175-Nov-15	10:31:16	801	33	-10193	129	P	t-	1.4606	0.1820	69N	42E	0		
1176-Apr-11	05:59:27	800	33	-10188	96	T	-p	0.7156	1.0629	54N	74E	44	295	04m20s
1176-Oct-04	16:11:27	798	33	-10182	101	A	-p	-0.8551	0.9400	62S	94W	31	428	05m00s
1177-Mar-31	21:00:14	796	33	-10176	106	T	nn	-0.0074	1.0253	7N	131W	90	86	02m33s
1177-Sep-23	22:42:18	795	33	-10170	111	H	nn	-0.0971	1.0025	8S	162W	84	9	00m16s
1178-Mar-21	05:53:11	793	33	-10164	116	A	p-	-0.7839	0.9610	46S	116E	38	225	03m39s
1178-Sep-13	12:08:33	792	33	-10158	121	T	p-	0.6196	1.0500	38N	13E	51	210	03m59s
1179-Feb-08	13:48:45	791	33	-10153	88	P	-t	1.4582	0.1861	71N	69W	0		
1179-Mar-10	07:39:47	790	33	-10152	126	Pb	t-	-1.5357	0.0535	72S	165E	0		
1179-Aug-04	20:37:52	789	33	-10147	93	P	-t	-1.2551	0.5285	70S	165W	0		
1179-Sep-03	04:42:10	789	33	-10146	131	P	t-	1.3097	0.4241	72N	142W	0		
1180-Jan-28	15:39:17	788	33	-10141	98	A	-p	0.7266	0.9542	30N	57W	43	242	05m08s
1180-Jul-24	09:25:04	786	33	-10135	103	H	-p	-0.5471	1.0031	14S	38E	57	13	00m21s
1181-Jan-17	00:33:21	785	33	-10129	108	H	nn	-0.0074	1.0127	20S	178E	89	44	01m17s
1181-Jul-13	15:11:34	783	33	-10123	113	A	nn	0.2245	0.9590	34N	42W	77	153	04m42s
1182-Jan-06	15:00:28	782	33	-10117	118	T	p-	-0.6802	1.0420	64S	33W	47	192	02m48s
1182-Jul-02	15:55:45	780	33	-10111	123	An	t-	0.9892	0.9368	75N	120E	7	-	03m50s
1182-Nov-27	18:48:39	779	32	-10106	90	P	-t	1.3868	0.2884	64N	70W	0		
1182-Dec-27	06:37:05	778	32	-10105	128	P	t-	-1.3506	0.3506	67S	94W	0		
1183-May-23	07:34:55	777	32	-10100	95	P	-t	-1.0066	0.9798	64S	104E	0		
1183-Nov-17	03:31:58	776	32	-10094	100	A	-p	0.7502	0.9500	26N	142E	41	273	05m38s
1184-May-11	20:39:00	774	32	-10088	105	T	-n	-0.2094	1.0609	8N	124W	78	204	05m35s
1184-Nov-05	05:09:08	773	32	-10082	110	A	nn	0.0658	0.9224	14S	104E	86	294	09m45s
1185-May-01	13:30:53	771	32	-10076	115	T	p-	0.5264	1.0736	46N	37W	58	280	05m10s
1185-Oct-25	04:31:52	770	32	-10070	120	A	p-	-0.6234	0.9308	48S	88E	51	328	06m24s

1186-Mar-22	19:29:30	769	32	-10065	87	P	-t	-1.3707	0.3184	61S	24W	0		
1186-Apr-21	05:32:42	768	32	-10064	125	P	t-	1.2848	0.4732	62N	19W	0		
1186-Sep-14	21:01:13	767	32	-10059	92	P	-t	1.4554	0.1600	61N	43W	0		
1186-Oct-14	09:05:57	767	32	-10058	130	P	t-	-1.2892	0.4669	61S	67W	0		
1187-Mar-12	02:08:37	766	32	-10053	97	A	-p	-0.6855	0.9474	38S	178E	47	259	04m59s
1187-Sep-04	11:52:32	764	32	-10047	102	T	-p	0.7044	1.0585	43N	31E	45	267	04m05s
1188-Feb-29	02:33:57	763	32	-10041	107	A	nn	0.0293	0.9294	4S	147E	88	265	08m14s
1188-Aug-24	04:32:54	761	32	-10035	112	Tm	nn	-0.0083	1.0598	8N	115E	90	197	05m01s
1189-Feb-17	03:27:33	760	32	-10029	117	A	p-	0.7347	0.9475	32N	111E	43	276	05m18s
1189-Aug-13	18:22:04	758	32	-10023	122	H	p-	-0.7745	1.0082	33S	115W	39	43	00m43s
1190-Jan-07	22:59:39	757	32	-10018	89	P	-t	-1.3501	0.3529	64S	17W	0		
1190-Feb-06	10:53:00	757	32	-10017	127	P	t-	1.3922	0.2801	62N	40W	0		
1190-Jul-04	11:15:35	756	32	-10012	94	P	-t	1.2396	0.5529	64N	163E	0		
1190-Dec-28	14:12:54	754	32	-10006	99	T	-p	-0.6647	1.0430	63S	11W	48	193	02m50s
1191-Jun-23	11:49:21	753	32	-10000	104	A	-p	0.4832	0.9539	52N	13E	61	193	04m28s
1191-Dec-18	05:15:18	751	32	-9994	109	T	nn	0.0009	1.0209	24S	105E	90	71	02m02s
1192-Jun-11	16:23:40	750	32	-9988	114	A	p-	-0.3024	0.9981	6N	64W	72	7	00m14s
1192-Dec-06	15:33:24	748	31	-9982	119	A	p-	0.7228	0.9614	23N	53W	44	203	04m30s
1193-May-02	20:41:02	747	31	-9977	86	Pe	-t	1.4901	0.0766	70N	84E	0		
1193-Jun-01	04:11:33	747	31	-9976	124	P	t-	-1.0418	0.9331	67S	120E	0		
1193-Nov-25	18:32:25	745	31	-9970	129	P	t-	1.4532	0.1953	68N	90W	0		
1194-Apr-22	13:44:26	744	31	-9965	96	T	-p	0.7747	1.0629	63N	47W	39	327	04m03s
1194-Oct-15	23:56:09	743	31	-9959	101	A	-p	-0.8810	0.9389	68S	142E	28	481	04m45s
1195-Apr-12	04:37:16	741	31	-9953	106	T	nn	0.0477	1.0248	14N	113E	87	84	02m30s
1195-Oct-05	06:44:10	740	31	-9947	111	H	nn	-0.1277	1.0026	14S	77E	83	9	00m16s
1196-Mar-31	13:11:05	738	31	-9941	116	A	p-	-0.7326	0.9621	38S	1E	43	200	03m52s
1196-Sep-23	20:18:43	737	31	-9935	121	T	p-	0.5822	1.0491	31N	112W	54	199	04m06s
1197-Feb-18	21:23:47	736	31	-9930	88	P	-t	1.4855	0.1391	71N	163E	0		
1197-Mar-20	14:48:52	736	31	-9929	126	P	t-	-1.4880	0.1326	72S	44E	0		
1197-Aug-15	04:16:03	734	31	-9924	93	P	-t	-1.3160	0.4130	71S	68E	0		
1197-Sep-13	12:45:50	734	31	-9923	131	P	t-	1.2696	0.5009	72N	83E	0		
1198-Feb-07	23:41:15	733	31	-9918	98	A	-p	0.7437	0.9590	34N	179E	42	221	04m20s
1198-Aug-04	16:34:42	732	31	-9912	103	A	-p	-0.6175	0.9967	22S	73W	52	15	00m21s

1199-Jan-28	09:05:23	730	31	-9906	108	H2	nn	0.0033	1.0174	16S	51E	90	60	01m45s
1199-Jul-24	21:48:27	729	31	-9900	113	A	nn	0.1440	0.9557	27N	141W	82	163	05m21s
1200-Jan-17	23:48:26	727	31	-9894	118	T	p-	-0.6731	1.0443	61S	159W	47	200	03m01s
1200-Jul-12	22:22:46	726	31	-9888	123	A	t-	0.9039	0.9409	84N	101W	25	521	04m12s
1200-Dec-08	03:29:59	725	31	-9883	90	P	-t	1.3933	0.2772	65N	150E	0		

13TH CENTURY CE

In the 13th century CE the total number of solar eclipses was 246 solar eclipses: 87 partial solar eclipses, 81 annular solar eclipses (80 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 60 total solar eclipses (60 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 18 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST									°	km	
			ECLIPSE											
1201-Jan-06	15:24:26	724	31	-9882	128	P	t-	-1.3492	0.3532	68S	122E	0		
1201-Jun-02	14:35:46	723	31	-9877	95	P	-t	-1.0801	0.8475	65S	11W	0		
1201-Nov-27	11:48:10	722	31	-9871	100	A	-p	0.7592	0.9461	26N	15E	40	302	06m16s
1202-May-23	04:05:56	720	31	-9865	105	T	-n	-0.2801	1.0643	6N	125E	74	219	06m02s
1202-Nov-16	13:02:22	719	30	-9859	110	A	nn	0.0808	0.9202	16S	14W	85	303	10m23s
1203-May-12	21:07:26	718	30	-9853	115	T	p-	0.4597	1.0755	46N	147W	62	275	05m26s
1203-Nov-05	12:25:50	716	30	-9847	120	A	p-	-0.6038	0.9307	51S	28W	53	323	06m23s
1204-Apr-02	03:06:23	715	30	-9842	87	P	-t	-1.4252	0.2197	61S	147W	0		



1204-May-01	13:01:34	715	30	-9841	125	P	t-	1.2250	0.5851	63N	140W	0		
1204-Sep-25	05:01:30	714	30	-9836	92	P	-t	1.4869	0.1022	61N	172W	0		
1204-Oct-24	17:16:36	714	30	-9835	130	P	t-	-1.2651	0.5096	62S	161E	0		
1205-Mar-22	09:27:28	712	30	-9830	97	A	-p	-0.7364	0.9473	37S	69E	42	278	05m04s
1205-Sep-14	19:58:04	711	30	-9824	102	T	-p	0.7457	1.0556	41N	89W	42	270	03m55s
1206-Mar-11	09:50:23	710	30	-9818	107	Am	nn	-0.0156	0.9326	2S	38E	89	252	07m47s
1206-Sep-04	12:27:22	708	30	-9812	112	T	nn	0.0409	1.0549	7N	4W	88	181	04m36s
1207-Feb-28	11:09:07	707	30	-9806	117	A	p-	0.7002	0.9534	33N	5W	45	232	04m32s
1207-Aug-25	01:48:47	705	30	-9800	122	H	p-	-0.7186	1.0031	32S	133E	44	15	00m16s
1208-Jan-19	07:39:45	704	30	-9795	89	P	-t	-1.3550	0.3432	63S	156W	0		
1208-Feb-17	19:06:53	704	30	-9794	127	P	t-	1.3664	0.3256	61N	172W	0		
1208-Jul-14	17:44:16	703	30	-9789	94	P	-t	1.3242	0.4079	63N	56E	0		
1208-Aug-13	08:26:48	703	30	-9788	132	Pb	t-	-1.5227	0.0639	62S	9W	0		
1209-Jan-07	23:03:26	702	30	-9783	99	T	-p	-0.6701	1.0439	61S	138W	48	197	02m54s
1209-Jul-03	18:17:39	700	30	-9777	104	A	-p	0.5691	0.9540	56N	77W	55	204	04m11s
1209-Dec-28	14:00:50	699	30	-9771	109	T	nn	-0.0017	1.0190	23S	26W	90	65	01m50s
1210-Jun-22	23:17:13	698	30	-9765	114	H	n-	-0.2207	1.0018	11N	168W	77	6	00m12s
1210-Dec-17	23:58:43	696	30	-9759	119	A	p-	0.7215	0.9585	23N	178E	44	217	04m51s
1211-Jun-12	11:30:07	695	30	-9753	124	T	t-	-0.9650	1.0434	52S	3E	15	569	03m20s
1211-Dec-07	02:36:41	693	30	-9747	129	P	t-	1.4484	0.2038	67N	138E	0		
1212-May-02	21:22:39	692	30	-9742	96	T	-p	0.8394	1.0620	72N	169W	33	377	03m43s
1212-Oct-26	07:50:22	691	29	-9736	101	A	-p	-0.8999	0.9382	74S	15E	25	532	04m33s
1213-Apr-22	12:06:10	690	29	-9730	106	T	nn	0.1090	1.0239	21N	1W	84	82	02m23s
1213-Oct-15	14:54:50	688	29	-9724	111	H	nn	-0.1518	1.0029	20S	47W	81	10	00m18s
1214-Apr-11	20:20:46	687	29	-9718	116	A	p-	-0.6752	0.9629	30S	111W	47	180	04m05s
1214-Oct-05	04:37:15	686	29	-9712	121	T	p-	0.5513	1.0480	25N	120E	56	190	04m11s
1215-Mar-02	04:52:12	685	29	-9707	88	P	-t	1.5180	0.0829	72N	37E	0		
1215-Mar-31	21:50:37	684	29	-9706	126	P	t-	-1.4345	0.2222	72S	76W	0		
1215-Aug-26	11:59:10	683	29	-9701	93	P	-t	-1.3722	0.3077	72S	62W	0		
1215-Sep-24	20:55:53	683	29	-9700	131	P	t-	1.2351	0.5663	72N	54W	0		
1216-Feb-19	07:37:22	682	29	-9695	98	A	-p	0.7662	0.9641	39N	56E	40	200	03m33s
1216-Aug-14	23:48:31	681	29	-9689	103	A	-p	-0.6832	0.9899	30S	175E	47	48	01m02s
1217-Feb-07	17:30:21	679	29	-9683	108	T	nn	0.0203	1.0226	12S	76W	89	77	02m15s

1217-Aug-04	04:30:46	678	29	-9677	113	Am	nn	0.0687	0.9520	19N	117E	86	176	06m01s
1218-Jan-28	08:30:14	677	29	-9671	118	T	p-	-0.6613	1.0470	57S	73E	48	209	03m17s
1218-Jul-24	04:55:32	675	29	-9665	123	A	p-	0.8225	0.9425	72N	135E	34	376	04m34s
1218-Dec-19	12:10:08	674	29	-9660	90	P	-t	1.4001	0.2654	66N	9E	0		
1219-Jan-18	00:06:44	674	29	-9659	128	P	t-	-1.3445	0.3618	69S	20W	0		
1219-Jun-13	21:37:14	673	29	-9654	95	P	-t	-1.1537	0.7139	66S	127W	0		
1219-Jul-13	08:23:37	673	29	-9653	133	Pb	t-	1.5337	0.0308	68N	137W	0		
1219-Dec-08	20:06:04	672	29	-9648	100	A	-p	0.7660	0.9430	26N	112W	40	327	06m48s
1220-Jun-02	11:28:48	670	29	-9642	105	T	-n	-0.3545	1.0670	3N	14E	69	234	06m24s
1220-Nov-26	21:01:27	669	29	-9636	110	A	nn	0.0907	0.9185	17S	133W	85	311	10m57s
1221-May-23	04:38:15	668	29	-9630	115	T	n-	0.3885	1.0767	44N	104E	67	269	05m43s
1221-Nov-15	20:27:24	666	29	-9624	120	A	p-	-0.5901	0.9310	54S	145W	54	319	06m20s
1222-Apr-13	10:33:54	665	29	-9619	87	Pe	-t	-1.4862	0.1094	62S	92E	0		
1222-May-12	20:23:59	665	29	-9618	125	P	t-	1.1607	0.7053	63N	100E	0		
1222-Oct-06	13:11:25	664	29	-9613	92	P	-t	1.5111	0.0577	61N	57E	0		
1222-Nov-05	01:35:42	664	29	-9612	130	P	t-	-1.2475	0.5408	63S	27E	0		
1223-Apr-02	16:37:44	663	28	-9607	97	A	-p	-0.7938	0.9471	38S	38W	37	310	05m09s
1223-Sep-26	04:10:25	661	28	-9601	102	T	-p	0.7816	1.0525	40N	147E	38	272	03m46s
1224-Mar-21	16:59:51	660	28	-9595	107	A	nn	-0.0663	0.9359	0S	69W	86	239	07m23s
1224-Sep-14	20:27:45	659	28	-9589	112	T	nn	0.0846	1.0496	5N	124W	85	165	04m11s
1225-Mar-10	18:43:33	658	28	-9583	117	A	p-	0.6590	0.9596	34N	119W	49	190	03m49s
1225-Sep-04	09:21:54	656	28	-9577	122	A	p-	-0.6687	0.9977	32S	19E	48	11	00m12s
1226-Jan-29	16:15:50	655	28	-9572	89	P	-t	-1.3640	0.3260	62S	65E	0		
1226-Feb-28	03:15:01	655	28	-9571	127	P	t-	1.3352	0.3818	61N	57E	0		
1226-Jul-26	00:17:23	654	28	-9566	94	P	-t	1.4043	0.2714	63N	52W	0		
1226-Aug-24	15:25:41	654	28	-9565	132	P	t-	-1.4633	0.1683	61S	123W	0		
1227-Jan-19	07:50:10	653	28	-9560	99	T	-p	-0.6787	1.0450	57S	94E	47	204	02m59s
1227-Jul-15	00:51:01	651	28	-9554	104	A	-p	0.6512	0.9537	58N	167W	49	222	03m59s
1228-Jan-08	22:42:50	650	28	-9548	109	H3	nn	-0.0068	1.0176	22S	155W	89	60	01m40s
1228-Jul-03	06:13:42	649	28	-9542	114	H	nn	-0.1404	1.0049	15N	88E	82	17	00m32s
1228-Dec-28	08:21:57	648	28	-9536	119	A	p-	0.7191	0.9564	23N	50E	44	227	05m04s
1229-Jun-22	18:50:28	646	28	-9530	124	T	t-	-0.8886	1.0496	39S	110W	27	360	04m10s
1229-Dec-17	10:40:17	645	28	-9524	129	P	t-	1.4431	0.2131	66N	6E	0		

1230-May-14	04:56:06	644	28	-9519	96	T	-t	0.9078	1.0597	82N	52E	24	476	03m17s
1230-Nov-06	15:52:54	643	28	-9513	101	A	-p	-0.9130	0.9381	80S	116W	24	574	04m21s
1231-May-03	19:27:01	641	28	-9507	106	T	-n	0.1762	1.0224	28N	112W	80	78	02m11s
1231-Oct-26	23:14:24	640	28	-9501	111	Hm	nn	-0.1694	1.0033	25S	172W	80	12	00m20s
1232-Apr-22	03:20:12	639	28	-9495	116	A	p-	-0.6097	0.9636	22S	140E	52	165	04m18s
1232-Oct-15	13:04:34	638	28	-9489	121	T	p-	0.5277	1.0469	20N	9W	58	183	04m14s
1233-Mar-12	12:10:15	637	28	-9484	88	Pe	-t	1.5587	0.0122	72N	87W	0		
1233-Apr-11	04:41:20	636	28	-9483	126	P	t-	-1.3717	0.3278	71S	168E	0		
1233-Sep-05	19:49:26	635	27	-9478	93	P	-t	-1.4219	0.2157	72S	167E	0		
1233-Oct-05	05:14:31	635	27	-9477	131	P	t-	1.2080	0.6173	72N	167E	0		
1234-Mar-01	15:26:57	634	27	-9472	98	A	-p	0.7947	0.9693	45N	66W	37	180	02m49s
1234-Aug-26	07:07:15	633	27	-9466	103	A	-p	-0.7438	0.9829	38S	60E	42	90	01m39s
1235-Feb-19	01:50:45	632	27	-9460	108	Tm	nn	0.0419	1.0280	7S	158E	88	95	02m45s
1235-Aug-15	11:17:19	630	27	-9454	113	A	nn	-0.0027	0.9481	12N	14E	90	191	06m40s
1236-Feb-08	17:07:25	629	27	-9448	118	T	p-	-0.6454	1.0501	51S	56W	50	217	03m36s
1236-Aug-03	11:32:59	628	27	-9442	123	A	p-	0.7442	0.9432	62N	30E	42	314	04m57s
1236-Dec-29	20:49:54	627	27	-9437	90	P	-t	1.4068	0.2538	67N	131W	0		
1237-Jan-28	08:44:47	627	27	-9436	128	P	t-	-1.3370	0.3758	70S	162W	0		
1237-Jun-24	04:41:05	626	27	-9431	95	P	-t	-1.2260	0.5815	67S	117E	0		
1237-Jul-23	15:20:40	626	27	-9430	133	P	t-	1.4563	0.1681	69N	107E	0		
1237-Dec-19	04:23:07	624	27	-9425	100	A	-p	0.7728	0.9404	27N	121E	39	348	07m11s
1238-Jun-13	18:53:29	623	27	-9419	105	T	-p	-0.4280	1.0689	2S	98W	65	248	06m38s
1238-Dec-08	05:02:12	622	27	-9413	110	A	nn	0.0987	0.9175	18S	107E	84	315	11m23s
1239-Jun-03	12:07:13	621	27	-9407	115	T	n-	0.3158	1.0771	41N	4W	71	263	05m58s
1239-Nov-27	04:33:31	620	27	-9401	120	A	p-	-0.5795	0.9318	56S	98E	54	313	06m16s
1240-May-23	03:41:15	618	27	-9395	125	P	t-	1.0929	0.8315	64N	19W	0		
1240-Oct-16	21:30:02	617	27	-9390	92	Pe	-t	1.5295	0.0238	62N	77W	0		
1240-Nov-15	10:01:01	617	27	-9389	130	P	t-	-1.2339	0.5648	63S	108W	0		
1241-Apr-12	23:36:45	616	27	-9384	97	A	-t	-0.8596	0.9462	41S	142W	30	376	05m14s
1241-Oct-06	12:31:57	615	27	-9378	102	T	-p	0.8103	1.0494	39N	20E	36	274	03m38s
1242-Apr-01	23:59:48	614	27	-9372	107	A	nn	-0.1252	0.9393	1N	174W	83	227	07m04s
1242-Sep-26	04:35:36	613	27	-9366	112	T	-n	0.1218	1.0443	2N	114E	83	149	03m48s
1243-Mar-22	02:10:22	611	27	-9360	117	A	p-	0.6105	0.9659	35N	130E	52	152	03m08s

1243-Sep-15	17:01:41	610	27	-9354	122	A	p-	-0.6250	0.9920	33S	96W	51	35	00m42s
1244-Feb-10	00:45:33	609	27	-9349	89	P	-t	-1.3786	0.2980	62S	71W	0		
1244-Mar-10	11:14:39	609	27	-9348	127	P	t-	1.2964	0.4524	61N	72W	0		
1244-Aug-05	06:54:16	608	26	-9343	94	P	-t	1.4806	0.1422	62N	160W	0		
1244-Sep-03	22:31:18	608	26	-9342	132	P	t-	-1.4095	0.2622	61S	122E	0		
1245-Jan-29	16:32:03	607	26	-9337	99	T	-p	-0.6915	1.0465	54S	34W	46	213	03m05s
1245-Jul-25	07:29:38	606	26	-9331	104	A	-p	0.7295	0.9528	60N	102E	43	250	03m52s
1246-Jan-19	07:20:30	604	26	-9325	109	H	nn	-0.0150	1.0166	20S	76E	89	57	01m34s
1246-Jul-14	13:15:16	603	26	-9319	114	H	nn	-0.0632	1.0074	17N	16W	86	26	00m46s
1247-Jan-08	16:43:11	602	26	-9313	119	A	p-	0.7155	0.9547	23N	78W	44	234	05m09s
1247-Jul-04	02:11:43	601	26	-9307	124	T	p-	-0.8122	1.0539	31S	138E	35	304	04m42s
1247-Dec-28	18:44:23	600	26	-9301	129	P	t-	1.4384	0.2213	65N	125W	0		
1248-May-24	12:24:43	599	26	-9296	96	T	-t	0.9801	1.0549	78N	171W	11	996	02m42s
1248-Jun-22	19:09:32	599	26	-9295	134	Pb	t-	-1.5159	0.0222	65S	126W	0		
1248-Nov-17	00:02:13	598	26	-9290	101	A	-p	-0.9210	0.9385	84S	108E	22	599	04m10s
1249-May-14	02:41:10	596	26	-9284	106	T	-n	0.2482	1.0204	35N	139E	75	72	01m56s
1249-Nov-06	07:41:07	595	26	-9278	111	H	nn	-0.1817	1.0041	29S	62E	79	14	00m24s
1250-May-03	10:13:08	594	26	-9272	116	A	p-	-0.5397	0.9639	15S	34E	57	155	04m32s
1250-Oct-26	21:37:22	593	26	-9266	121	T	p-	0.5086	1.0458	15N	139W	59	177	04m16s
1251-Apr-22	11:26:28	592	26	-9260	126	P	t-	-1.3042	0.4422	71S	53E	0		
1251-Sep-17	03:45:48	591	26	-9255	93	P	-t	-1.4659	0.1352	72S	33E	0		
1251-Oct-16	13:39:16	591	26	-9254	131	P	t-	1.1863	0.6577	71N	27E	0		
1252-Mar-11	23:08:32	590	26	-9249	98	A	-p	0.8305	0.9745	52N	173E	34	162	02m09s
1252-Sep-05	14:32:14	588	26	-9243	103	A	-p	-0.7982	0.9757	46S	57W	37	142	02m11s
1253-Mar-01	10:02:52	587	26	-9237	108	T	nn	0.0710	1.0336	1S	33E	86	113	03m15s
1253-Aug-25	18:11:49	586	26	-9231	113	A	nn	-0.0670	0.9440	4N	92W	86	207	07m16s
1254-Feb-19	01:36:14	585	26	-9225	118	T	p-	-0.6227	1.0534	45S	176E	51	225	03m59s
1254-Aug-14	18:19:39	584	26	-9219	123	A	p-	0.6727	0.9433	53N	76W	47	282	05m23s
1255-Jan-10	05:25:52	583	26	-9214	90	P	-t	1.4159	0.2377	68N	88E	0		
1255-Feb-08	17:15:39	583	26	-9213	128	P	t-	-1.3244	0.3991	71S	57E	0		
1255-Jul-05	11:46:58	582	25	-9208	95	P	-t	-1.2971	0.4504	68S	1W	0		
1255-Aug-03	22:23:36	582	25	-9207	133	P	t-	1.3824	0.2996	70N	12W	0		
1255-Dec-30	12:39:05	581	25	-9202	100	A	-p	0.7797	0.9386	29N	6W	39	365	07m23s

1256-Jun-24	02:17:18	579	25	-9196	105	T	-p	-0.5022	1.0698	7S	149E	60	263	06m42s
1256-Dec-18	13:04:34	578	25	-9190	110	A	nn	0.1055	0.9172	18S	13W	84	317	11m38s
1257-Jun-13	19:33:18	577	25	-9184	115	T	n-	0.2409	1.0765	38N	113W	76	255	06m11s
1257-Dec-07	12:44:33	576	25	-9178	120	A	p-	-0.5725	0.9332	58S	19W	55	305	06m09s
1258-Jun-03	10:54:15	575	25	-9172	125	P	t-	1.0221	0.9627	65N	137W	0		
1258-Nov-26	18:31:22	574	25	-9166	130	P	t-	-1.2240	0.5826	64S	114E	0		
1259-Apr-24	06:28:45	573	25	-9161	97	A	-t	-0.9303	0.9445	47S	118E	21	548	05m15s
1259-Oct-17	21:00:27	572	25	-9155	102	T	-p	0.8333	1.0464	38N	109W	33	274	03m30s
1260-Apr-12	06:51:55	571	25	-9149	107	A	nn	-0.1907	0.9426	2N	84E	79	216	06m48s
1260-Oct-06	12:50:21	569	25	-9143	112	T	-n	0.1527	1.0390	0S	10W	81	132	03m25s
1261-Apr-01	09:30:52	568	25	-9137	117	A	p-	0.5561	0.9724	37N	21E	56	117	02m31s
1261-Sep-26	00:48:28	567	25	-9131	122	A	p-	-0.5878	0.9863	35S	147E	54	59	01m12s
1262-Feb-20	09:09:16	566	25	-9126	89	P	-t	-1.3986	0.2596	61S	154E	0		
1262-Mar-21	19:08:29	566	25	-9125	127	P	t-	1.2522	0.5339	61N	161E	0		
1262-Aug-16	13:38:56	565	25	-9120	94	Pe	-t	1.5501	0.0255	62N	90E	0		
1262-Sep-15	05:45:04	565	25	-9119	132	P	t-	-1.3625	0.3435	61S	5E	0		
1263-Feb-10	01:08:05	564	25	-9114	99	T	-p	-0.7093	1.0480	51S	162W	45	224	03m13s
1263-Aug-05	14:14:39	563	25	-9108	104	A	-p	0.8029	0.9516	60N	10E	36	294	03m49s
1264-Jan-30	15:52:23	562	25	-9102	109	H	nn	-0.0276	1.0159	17S	51W	88	55	01m29s
1264-Jul-24	20:22:40	561	25	-9096	114	H	nn	0.0103	1.0093	19N	122W	89	32	00m56s
1265-Jan-19	00:57:31	560	25	-9090	119	A	p-	0.7068	0.9538	24N	156E	45	234	05m08s
1265-Jul-14	09:37:27	559	25	-9084	124	T	p-	-0.7389	1.0568	25S	25E	42	275	04m59s
1266-Jan-08	02:44:25	557	25	-9078	129	P	t-	1.4301	0.2349	64N	105E	0		
1266-Jun-04	19:50:29	556	25	-9073	96	P	-t	1.0541	0.9157	67N	60E	0		
1266-Jul-04	02:38:26	556	25	-9072	134	P	t-	-1.4465	0.1578	64S	112E	0		
1266-Nov-28	08:15:57	555	24	-9067	101	A	-p	-0.9261	0.9396	89S	68W	22	608	04m00s
1267-May-25	09:49:24	554	24	-9061	106	T	-p	0.3242	1.0177	41N	33E	71	64	01m37s
1267-Nov-17	16:14:31	553	24	-9055	111	H	-n	-0.1891	1.0052	32S	66W	79	18	00m30s
1268-May-13	16:56:19	552	24	-9049	116	A	p-	-0.4622	0.9638	7S	70W	62	147	04m44s
1268-Nov-06	06:18:12	551	24	-9043	121	T	p-	0.4959	1.0448	11N	89E	60	172	04m16s
1269-May-02	18:03:11	550	24	-9037	126	P	t-	-1.2292	0.5699	70S	59W	0		
1269-Sep-27	11:49:50	549	24	-9032	93	P	-t	-1.5033	0.0681	72S	102W	0		
1269-Oct-26	22:11:12	549	24	-9031	131	P	t-	1.1709	0.6862	70N	114W	0		

1270-Mar-23	06:43:29	548	24	-9026	98	A	-p	0.8725	0.9795	60N	51E	29	149	01m35s
1270-Sep-16	22:04:22	547	24	-9020	103	A	-p	-0.8459	0.9686	54S	177W	32	211	02m38s
1271-Mar-12	18:09:30	546	24	-9014	108	T	nn	0.1052	1.0392	5N	90W	84	132	03m44s
1271-Sep-06	01:11:56	545	24	-9008	113	A	nn	-0.1263	0.9398	3S	161E	83	225	07m48s
1272-Mar-01	09:59:29	544	24	-9002	118	T	p-	-0.5955	1.0569	39S	49E	53	232	04m24s
1272-Aug-25	01:13:41	543	24	-8996	123	A	p-	0.6068	0.9430	44N	177E	52	264	05m50s
1273-Jan-20	13:57:07	542	24	-8991	90	P	-t	1.4282	0.2160	69N	52W	0		
1273-Feb-19	01:39:00	541	24	-8990	128	P	t-	-1.3066	0.4320	71S	82W	0		
1273-Jul-15	18:58:12	541	24	-8985	95	P	-t	-1.3644	0.3258	69S	120W	0		
1273-Aug-14	05:35:22	540	24	-8984	133	P	t-	1.3146	0.4205	71N	133W	0		
1274-Jan-09	20:51:20	540	24	-8979	100	A	-p	0.7886	0.9372	31N	133W	38	380	07m25s
1274-Jul-05	09:44:23	538	24	-8973	105	T	-p	-0.5742	1.0700	13S	36E	55	278	06m35s
1274-Dec-29	21:04:50	537	24	-8967	110	A	nn	0.1137	0.9175	16S	132W	84	316	11m43s
1275-Jun-25	02:59:52	536	24	-8961	115	T	nn	0.1669	1.0752	33N	138E	80	247	06m21s
1275-Dec-18	20:56:30	535	24	-8955	120	A	p-	-0.5657	0.9352	58S	135W	55	294	06m00s
1276-Jun-13	18:03:37	534	24	-8949	125	T	t-	0.9491	1.0202	82N	135E	18	226	01m07s
1276-Dec-07	03:05:24	533	24	-8943	130	P	t-	-1.2165	0.5960	65S	24W	0		
1277-May-04	13:11:53	532	24	-8938	97	A-	-t	-1.0071	0.9529	63S	34E	0		
1277-Oct-28	05:36:00	531	24	-8932	102	T	-p	0.8506	1.0438	38N	120E	31	273	03m23s
1278-Apr-23	13:36:39	530	23	-8926	107	A	nn	-0.2622	0.9457	1N	17W	75	207	06m37s
1278-Oct-17	21:12:57	529	23	-8920	112	T	-n	0.1761	1.0338	3S	135W	80	116	03m03s
1279-Apr-12	16:44:01	528	23	-8914	117	A	p-	0.4946	0.9788	37N	85W	60	86	01m55s
1279-Oct-07	08:42:18	527	23	-8908	122	A	p-	-0.5574	0.9805	38S	29E	56	82	01m42s
1280-Mar-02	17:25:35	526	23	-8903	89	P	-t	-1.4250	0.2085	61S	21E	0		
1280-Apr-01	02:54:17	526	23	-8902	127	P	t-	1.2008	0.6297	61N	35E	0		
1280-Sep-25	13:06:50	525	23	-8896	132	P	t-	-1.3219	0.4131	61S	114W	0		
1281-Feb-20	09:36:16	524	23	-8891	99	T	-p	-0.7336	1.0496	48S	72E	43	239	03m22s
1281-Aug-15	21:07:53	523	23	-8885	104	A	-p	0.8702	0.9497	60N	84W	29	369	03m50s
1282-Feb-10	00:17:55	522	23	-8879	109	H	nn	-0.0450	1.0156	14S	177W	87	54	01m26s
1282-Aug-05	03:35:53	521	23	-8873	114	H	nn	0.0798	1.0107	19N	131E	85	37	01m01s
1283-Jan-30	09:06:51	520	23	-8867	119	A	p-	0.6949	0.9533	25N	31E	46	232	05m02s
1283-Jul-25	17:06:37	519	23	-8861	124	T	p-	-0.6678	1.0587	21S	88W	48	256	05m07s
1284-Jan-19	10:40:59	518	23	-8855	129	P	t-	1.4195	0.2525	63N	23W	0		

1284-Jun-15	03:13:03	517	23	-8850	96	P	-t	1.1301	0.7691	66N	61W	0		
1284-Jul-14	10:08:14	517	23	-8849	134	P	t-	-1.3779	0.2914	63S	10W	0		
1284-Dec-08	16:33:58	516	23	-8844	101	A	-p	-0.9284	0.9414	86S	56E	21	598	03m49s
1285-Jun-04	16:53:55	515	23	-8838	106	H	-p	0.4024	1.0143	47N	71W	66	54	01m15s
1285-Nov-28	00:51:24	514	23	-8832	111	H	-n	-0.1942	1.0068	34S	167E	79	24	00m39s
1286-May-24	23:36:12	513	23	-8826	116	A	p-	-0.3826	0.9632	0S	172W	68	144	04m55s
1286-Nov-17	15:03:18	512	23	-8820	121	T	p-	0.4865	1.0441	8N	44W	61	168	04m17s
1287-May-14	00:35:22	511	23	-8814	126	P	t-	-1.1500	0.7051	69S	169W	0		
1287-Oct-08	20:00:03	510	23	-8809	93	Pe	-t	-1.5351	0.0121	71S	121E	0		
1287-Nov-07	06:48:11	510	23	-8808	131	P	t-	1.1600	0.7058	69N	104E	0		
1288-Apr-02	14:11:24	509	23	-8803	98	A	-p	0.9211	0.9840	69N	76W	22	147	01m07s
1288-Sep-27	05:43:50	508	23	-8797	103	A	-t	-0.8863	0.9616	62S	59E	27	301	03m00s
1289-Mar-23	02:07:02	507	23	-8791	108	T	nn	0.1475	1.0448	12N	149E	81	151	04m10s
1289-Sep-16	08:21:59	506	22	-8785	113	A	nn	-0.1768	0.9357	10S	51E	80	243	08m15s
1290-Mar-12	18:13:56	505	22	-8779	118	T	p-	-0.5611	1.0604	33S	78W	56	238	04m52s
1290-Sep-05	08:17:06	504	22	-8773	123	A	p-	0.5480	0.9424	36N	68E	57	253	06m17s
1291-Jan-31	22:21:40	503	22	-8768	90	P	-t	1.4451	0.1858	70N	169E	0		
1291-Mar-02	09:53:45	503	22	-8767	128	P	t-	-1.2826	0.4766	72S	140E	0		
1291-Jul-27	02:14:24	502	22	-8762	95	P	-t	-1.4280	0.2076	70S	119E	0		
1291-Aug-25	12:55:28	502	22	-8761	133	P	t-	1.2526	0.5313	72N	104E	0		
1292-Jan-21	04:58:14	501	22	-8756	100	A	-p	0.8014	0.9363	35N	102E	36	395	07m17s
1292-Jul-15	17:13:05	500	22	-8750	105	T	-p	-0.6449	1.0692	20S	80W	50	295	06m17s
1293-Jan-09	05:03:28	499	22	-8744	110	A	nn	0.1233	0.9185	14S	108E	83	312	11m36s
1293-Jul-05	10:26:41	498	22	-8738	115	T	nn	0.0934	1.0730	28N	27E	84	238	06m24s
1293-Dec-29	05:09:08	497	22	-8732	120	A	p-	-0.5588	0.9379	57S	108E	56	279	05m48s
1294-Jun-25	01:11:50	496	22	-8726	125	T	p-	0.8757	1.0195	85N	154E	28	140	01m11s
1294-Dec-18	11:42:11	495	22	-8720	130	P	t-	-1.2108	0.6064	66S	164W	0		
1295-May-15	19:48:31	494	22	-8715	97	P	-t	-1.0883	0.8132	63S	74W	0		
1295-Nov-08	14:17:42	493	22	-8709	102	T	-p	0.8630	1.0414	38N	14W	30	271	03m17s
1296-May-03	20:15:48	492	22	-8703	107	A	np	-0.3385	0.9485	1S	116W	70	200	06m27s
1296-Oct-28	05:41:26	491	22	-8697	112	T	-n	0.1945	1.0289	5S	97E	79	100	02m41s
1297-Apr-22	23:51:53	491	22	-8691	117	A	p-	0.4276	0.9850	38N	170E	64	58	01m22s
1297-Oct-17	16:42:47	490	22	-8685	122	A	p-	-0.5330	0.9751	41S	90W	58	104	02m11s

# 14TH CENTURY CE

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	° .	°	ALT	WIDTH	DUR.
GREATEST			S									°	km	
ECLIPSE														

1301-Feb-09	17:06:47	483	22	-8644	119	A	p-	0.6757	0.9533	26N	90W	47	226	04m53s
1301-Aug-05	00:42:39	482	21	-8638	124	T	p-	-0.6019	1.0597	19S	157E	53	242	05m07s
1302-Jan-29	18:29:45	481	21	-8632	129	P	t-	1.4025	0.2804	62N	150W	0		
1302-Jun-26	10:35:46	480	21	-8627	96	P	-t	1.2055	0.6241	65N	178E	0		
1302-Jul-25	17:42:27	480	21	-8626	134	P	t-	-1.3129	0.4178	63S	133W	0		
1302-Dec-20	00:53:47	479	21	-8621	101	A	-p	-0.9301	0.9438	82S	85W	21	578	03m37s



1303-Jun-15	23:53:38	478	21	-8615	106	H	-p	0.4836	1.0103	52N	171W	61	41	00m52s
1303-Dec-09	09:32:50	477	21	-8609	111	H	-n	-0.1964	1.0089	35S	39E	78	31	00m50s
1304-Jun-04	06:09:33	476	21	-8603	116	A	nn	-0.2977	0.9622	6N	89E	73	144	05m04s
1304-Nov-27	23:53:21	475	21	-8597	121	T	p-	0.4813	1.0438	6N	178W	61	167	04m17s
1305-May-24	07:02:14	474	21	-8591	126	P	t-	-1.0659	0.8495	68S	83E	0		
1305-Nov-17	15:30:53	473	21	-8585	131	P	t-	1.1541	0.7163	68N	38W	0		
1306-Apr-13	21:34:05	473	21	-8580	98	A	-t	0.9745	0.9872	76N	131E	12	214	00m47s
1306-Oct-08	13:29:24	472	21	-8574	103	A	-t	-0.9208	0.9547	69S	71W	22	428	03m18s
1307-Apr-03	09:59:38	471	21	-8568	108	T	-n	0.1945	1.0501	19N	29E	79	169	04m33s
1307-Sep-27	15:39:00	470	21	-8562	113	A	nn	-0.2211	0.9317	17S	60W	77	261	08m39s
1308-Mar-23	02:20:56	469	21	-8556	118	T	p-	-0.5206	1.0638	26S	158E	58	243	05m21s
1308-Sep-15	15:29:59	468	21	-8550	123	A	p-	0.4965	0.9417	28N	43W	60	247	06m43s
1309-Feb-11	06:39:21	467	21	-8545	90	P	-t	1.4670	0.1466	71N	32E	0		
1309-Mar-12	18:00:22	467	21	-8544	128	P	t-	-1.2527	0.5323	72S	4E	0		
1309-Aug-06	09:38:11	466	21	-8539	95	Pe	-t	-1.4863	0.0991	70S	5W	0		
1309-Sep-04	20:25:23	466	21	-8538	133	P	t-	1.1974	0.6299	72N	23W	0		
1310-Jan-31	12:57:54	465	21	-8533	100	A	-p	0.8193	0.9358	39N	22W	35	415	07m01s
1310-Jul-27	00:47:43	464	21	-8527	105	T	-p	-0.7110	1.0676	27S	163E	44	313	05m52s
1311-Jan-20	12:57:33	463	21	-8521	110	A	nn	0.1364	0.9200	11S	10W	82	306	11m18s
1311-Jul-16	17:55:01	463	21	-8515	115	Tm	nn	0.0216	1.0700	21N	85W	89	228	06m20s
1312-Jan-09	13:20:00	462	21	-8509	120	A	p-	-0.5500	0.9413	54S	10W	56	261	05m33s
1312-Jul-05	08:19:19	461	21	-8503	125	T	p-	0.8029	1.0171	75N	68E	36	99	01m08s
1312-Dec-28	20:17:54	460	21	-8497	130	P	t-	-1.2038	0.6191	67S	56E	0		
1313-May-26	02:19:25	459	21	-8492	97	P	-t	-1.1731	0.6673	64S	178E	0		
1313-Nov-18	23:04:28	458	20	-8486	102	T	-p	0.8711	1.0395	37N	149W	29	268	03m13s
1314-May-15	02:50:05	457	20	-8480	107	A	-p	-0.4191	0.9511	3S	146E	65	196	06m19s
1314-Nov-08	14:15:02	456	20	-8474	112	T	-n	0.2079	1.0244	8S	31W	78	85	02m20s
1315-May-04	06:54:49	455	20	-8468	117	A	p-	0.3556	0.9909	37N	68E	69	34	00m51s
1315-Oct-29	00:49:56	454	20	-8462	122	A	p-	-0.5151	0.9698	44S	149E	59	126	02m40s
1316-Mar-24	09:36:43	454	20	-8457	89	Pe	-t	-1.4970	0.0687	61S	120E	0		
1316-Apr-22	18:08:38	454	20	-8456	127	P	t-	1.0813	0.8559	62N	149E	0		
1316-Oct-17	04:12:30	453	20	-8450	132	P	t-	-1.2591	0.5192	62S	2E	0		
1317-Mar-14	02:10:11	452	20	-8445	99	T	-p	-0.8008	1.0522	44S	176W	37	283	03m37s

1317-Sep-06	11:21:02	451	20	-8439	104	An	-t	0.9843	0.9439	61N	88E	9	-	03m55s
1318-Mar-03	16:42:08	450	20	-8433	109	H	-n	-0.1002	1.0153	9S	63W	84	53	01m24s
1318-Aug-26	18:27:16	449	20	-8427	114	H	nn	0.2005	1.0120	18N	90W	78	42	01m06s
1319-Feb-21	00:59:41	448	20	-8421	119	A	p-	0.6517	0.9537	28N	150E	49	218	04m42s
1319-Aug-16	08:23:19	447	20	-8415	124	T	p-	-0.5396	1.0600	18S	42E	57	231	05m01s
1320-Feb-10	02:13:13	446	20	-8409	129	P	t-	1.3814	0.3153	62N	85E	0		
1320-Jul-06	17:58:21	446	20	-8404	96	P	-t	1.2804	0.4808	64N	58E	0		
1320-Aug-05	01:20:18	446	20	-8403	134	P	t-	-1.2510	0.5374	62S	103E	0		
1320-Dec-30	09:13:27	445	20	-8398	101	A	-p	-0.9326	0.9469	78S	141E	21	553	03m25s
1321-Jun-26	06:52:52	444	20	-8392	106	H	-p	0.5641	1.0056	57N	90E	55	23	00m27s
1321-Dec-19	18:14:59	443	20	-8386	111	H	-n	-0.1987	1.0115	35S	89W	78	40	01m04s
1322-Jun-15	12:41:44	442	20	-8380	116	A	nn	-0.2127	0.9607	11N	10W	78	146	05m11s
1322-Dec-09	08:44:23	441	20	-8374	121	T	n-	0.4767	1.0439	5N	48E	61	167	04m17s
1323-Jun-04	13:27:52	440	20	-8368	126	As	t-	-0.9800	0.9383	56S	23W	11	-	05m59s
1323-Nov-29	00:16:08	439	20	-8362	131	P	t-	1.1510	0.7215	67N	179E	0		
1324-Apr-24	04:49:51	439	20	-8357	98	P	-t	1.0343	0.9273	70N	32W	0		
1324-Oct-18	21:22:37	438	20	-8351	103	A	-t	-0.9481	0.9483	75S	150E	18	612	03m33s
1325-Apr-13	17:44:26	437	20	-8345	108	T	-n	0.2487	1.0551	26N	89W	75	188	04m50s
1325-Oct-07	23:05:29	436	20	-8339	113	A	nn	-0.2573	0.9281	23S	173W	75	279	08m57s
1326-Apr-03	10:19:35	435	20	-8333	118	T	p-	-0.4731	1.0668	19S	35E	62	246	05m49s
1326-Sep-26	22:53:50	434	20	-8327	123	A	p-	0.4532	0.9409	21N	156W	63	244	07m07s
1327-Feb-22	14:47:50	434	20	-8322	90	P	-t	1.4955	0.0954	72N	104W	0		
1327-Mar-24	01:56:49	433	20	-8321	128	P	t-	-1.2152	0.6020	72S	129W	0		
1327-Sep-16	04:04:26	433	20	-8315	133	P	t-	1.1489	0.7168	72N	152W	0		
1328-Feb-11	20:50:07	432	20	-8310	100	A	-p	0.8426	0.9356	44N	145W	32	442	06m38s
1328-Aug-06	08:26:32	431	20	-8304	105	T	-p	-0.7735	1.0652	35S	44E	39	335	05m19s
1329-Jan-30	20:45:44	430	20	-8298	110	A	nn	0.1543	0.9222	6S	128W	81	297	10m51s
1329-Jul-27	01:26:13	429	20	-8292	115	T	nn	-0.0470	1.0662	15N	161E	87	217	06m08s
1330-Jan-19	21:28:45	428	20	-8286	120	A	p-	-0.5392	0.9452	51S	129W	57	240	05m16s
1330-Jul-16	15:26:54	427	20	-8280	125	T	p-	0.7308	1.0139	67N	36W	43	70	01m00s
1331-Jan-09	04:53:18	427	20	-8274	130	P	t-	-1.1962	0.6333	68S	84W	0		
1331-Jun-06	08:46:47	426	20	-8269	97	P	-t	-1.2597	0.5184	65S	71E	0		
1331-Jul-05	22:46:35	426	20	-8268	135	Pb	t-	1.5532	0.0063	68N	13E	0		

1331-Nov-30	07:54:48	425	20	-8263	102	T	-p	0.8766	1.0380	38N	74E	28	265	03m09s
1332-May-25	09:20:30	424	20	-8257	107	A	-p	-0.5032	0.9531	7S	48E	60	197	06m10s
1332-Nov-18	22:53:07	423	20	-8251	112	T	-n	0.2171	1.0202	9S	161W	78	71	02m01s
1333-May-14	13:55:20	422	20	-8245	117	A	p-	0.2807	0.9965	36N	34W	74	13	00m20s
1333-Nov-08	09:01:08	422	20	-8239	122	A	p-	-0.5012	0.9651	47S	28E	60	145	03m06s
1334-May-04	01:39:11	421	20	-8233	127	P	t-	1.0150	0.9829	63N	27E	0		
1334-Oct-28	11:56:14	420	20	-8227	132	P	t-	-1.2371	0.5560	62S	123W	0		
1335-Mar-25	10:14:51	419	20	-8222	99	T	-p	-0.8444	1.0528	44S	63E	32	319	03m42s
1335-Sep-17	18:41:51	418	20	-8216	104	P	-t	1.0305	0.9135	61N	12W	0		
1336-Mar-14	00:40:13	417	20	-8210	109	H	-n	-0.1385	1.0152	6S	177E	82	52	01m23s
1336-Sep-06	02:06:55	417	20	-8204	114	H	-n	0.2505	1.0122	16N	156E	75	43	01m07s
1337-Mar-03	08:40:39	416	20	-8198	119	A	p-	0.6182	0.9544	30N	34E	52	207	04m32s
1337-Aug-26	16:12:55	415	20	-8192	124	T	p-	-0.4842	1.0596	18S	76W	61	221	04m53s
1338-Feb-20	09:47:27	414	20	-8186	129	P	t-	1.3525	0.3632	61N	37W	0		
1338-Jul-18	01:22:23	413	20	-8181	96	P	-t	1.3535	0.3420	63N	63W	0		
1338-Aug-16	09:03:08	413	20	-8180	134	P	t-	-1.1933	0.6482	62S	22W	0		
1339-Jan-10	17:31:38	412	20	-8175	101	A	-p	-0.9371	0.9504	74S	11E	20	530	03m11s
1339-Jul-07	13:50:30	412	20	-8169	106	H	-p	0.6451	1.0002	60N	6W	50	1	00m01s
1339-Dec-31	02:57:33	411	20	-8163	111	H	-n	-0.2011	1.0147	34S	142E	78	52	01m20s
1340-Jun-25	19:10:35	410	20	-8157	116	A	nn	-0.1254	0.9587	16N	107W	83	151	05m16s
1340-Dec-19	17:37:47	409	20	-8151	121	T	n-	0.4741	1.0444	5N	86W	62	168	04m17s
1341-Jun-14	19:52:07	408	20	-8145	126	A	t-	-0.8923	0.9433	40S	123W	26	465	06m25s
1341-Dec-09	09:03:27	407	20	-8139	131	P	t-	1.1500	0.7228	66N	36E	0		
1342-May-05	12:02:36	407	20	-8134	98	P	-t	1.0972	0.8151	69N	152W	0		
1342-Oct-30	05:22:11	406	20	-8128	103	A	-t	-0.9695	0.9422	79S	6W	13	920	03m44s
1343-Apr-25	01:24:13	405	20	-8122	108	T	-n	0.3076	1.0597	33N	155E	72	206	05m02s
1343-Oct-19	06:39:22	404	20	-8116	113	A	-n	-0.2872	0.9247	29S	73E	73	296	09m12s
1344-Apr-13	18:11:34	403	20	-8110	118	T	n-	-0.4201	1.0695	12S	85W	65	249	06m15s
1344-Oct-07	06:26:54	403	20	-8104	123	A	p-	0.4170	0.9402	15N	88E	65	242	07m29s
1345-Mar-04	22:47:12	402	20	-8099	90	Pe	-t	1.5306	0.0326	72N	122E	0		
1345-Apr-03	09:44:55	402	20	-8098	128	P	t-	-1.1717	0.6829	71S	100E	0		
1345-Sep-26	11:53:50	401	20	-8092	133	P	t-	1.1079	0.7901	72N	76E	0		
1346-Feb-22	04:33:45	400	20	-8087	100	A	-p	0.8720	0.9354	50N	93E	29	488	06m11s

1346-Aug-17	16:11:24	399	20	-8081	105	T	-p	-0.8311	1.0622	43S	79W	33	365	04m43s
1347-Feb-11	04:27:00	399	20	-8075	110	A	nn	0.1777	0.9248	2S	116E	80	287	10m17s
1347-Aug-07	09:01:36	398	20	-8069	115	T	nn	-0.1115	1.0618	8N	46E	84	204	05m48s
1348-Jan-31	05:31:32	397	20	-8063	120	A	p-	-0.5226	0.9499	46S	112E	58	216	04m55s
1348-Jul-26	22:37:07	396	20	-8057	125	H	p-	0.6616	1.0098	58N	143W	48	45	00m46s
1349-Jan-19	13:24:39	395	20	-8051	130	P	t-	-1.1847	0.6546	69S	136E	0		
1349-Jun-16	15:12:22	395	20	-8046	97	P	-t	-1.3468	0.3688	66S	35W	0		
1349-Jul-16	05:25:42	395	20	-8045	135	P	t-	1.4783	0.1383	69N	99W	0		
1349-Dec-10	16:46:24	394	20	-8040	102	T	-p	0.8810	1.0371	38N	63W	28	264	03m06s
1350-Jun-05	15:49:55	393	20	-8034	107	A	-p	-0.5883	0.9547	12S	51W	54	204	05m59s
1350-Nov-30	07:34:48	392	20	-8028	112	H3	-n	0.2227	1.0166	10S	69E	77	58	01m42s
1351-May-25	20:52:00	391	20	-8022	117	H	nn	0.2016	1.0016	34N	135W	78	6	00m09s
1351-Nov-19	17:18:01	391	20	-8016	122	A	p-	-0.4929	0.9608	49S	93W	60	163	03m32s
1352-May-14	09:04:21	390	20	-8010	127	T	t-	0.9437	1.0427	74N	48W	19	441	02m18s
1352-Nov-07	19:47:12	389	20	-8004	132	P	t-	-1.2209	0.5826	63S	110E	0		
1353-Apr-04	18:11:04	388	20	-7999	99	T	-t	-0.8948	1.0527	46S	55W	26	383	03m41s
1353-Sep-28	02:13:50	388	20	-7993	104	P	-t	1.0683	0.8482	61N	134W	0		
1354-Mar-25	08:30:18	387	20	-7987	109	H	-n	-0.1828	1.0149	4S	60E	79	52	01m23s
1354-Sep-17	09:54:38	386	20	-7981	114	H	-n	0.2947	1.0122	14N	39E	73	44	01m07s
1355-Mar-14	16:13:53	385	20	-7975	119	A	p-	0.5792	0.9552	31N	79W	54	196	04m22s
1355-Sep-07	00:09:05	384	20	-7969	124	T	p-	-0.4340	1.0586	19S	165E	64	212	04m43s
1356-Mar-02	17:13:15	384	20	-7963	129	P	t-	1.3169	0.4224	61N	157W	0		
1356-Jul-28	08:49:09	383	20	-7958	96	P	-t	1.4234	0.2102	62N	176E	0		
1356-Aug-26	16:52:07	383	20	-7957	134	P	t-	-1.1411	0.7477	61S	148W	0		
1357-Jan-21	01:46:43	382	20	-7952	101	A	-p	-0.9447	0.9543	70S	117W	19	517	02m56s
1357-Jul-17	20:50:31	381	20	-7946	106	A	-p	0.7227	0.9942	61N	100W	43	29	00m26s
1358-Jan-10	11:37:15	381	20	-7940	111	T	-n	-0.2065	1.0183	32S	14E	78	64	01m38s
1358-Jul-07	01:41:43	380	20	-7934	116	Am	nn	-0.0405	0.9562	20N	157E	88	160	05m22s
1358-Dec-31	02:29:33	379	20	-7928	121	T	n-	0.4702	1.0454	5N	140E	62	171	04m18s
1359-Jun-26	02:16:29	378	20	-7922	126	A	p-	-0.8039	0.9463	30S	138E	36	330	06m30s
1359-Dec-20	17:50:55	377	20	-7916	131	P	t-	1.1497	0.7231	65N	106W	0		
1360-May-15	19:10:59	377	20	-7911	98	P	-t	1.1646	0.6933	68N	89E	0		
1360-Jun-14	05:56:01	377	20	-7910	136	Pb	t-	-1.5227	0.0495	66S	78E	0		

1360-Nov-09	13:27:06	376	20	-7905	103	As	-t	-0.9858	0.9366	77S	167W	9	-	03m53s
1361-May-05	08:58:00	375	20	-7899	108	T	-n	0.3721	1.0635	40N	41E	68	224	05m07s
1361-Oct-29	14:21:50	374	20	-7893	113	A	-n	-0.3101	0.9219	34S	42W	72	310	09m22s
1362-Apr-25	01:56:13	374	20	-7887	118	T	n-	-0.3611	1.0717	5S	156E	69	249	06m37s
1362-Oct-18	14:09:24	373	20	-7881	123	A	p-	0.3879	0.9397	10N	29W	67	241	07m48s
1363-Apr-14	17:23:45	372	20	-7875	128	P	t-	-1.1213	0.7767	71S	29W	0		
1363-Oct-07	19:52:53	371	20	-7869	133	P	t-	1.0741	0.8507	72N	57W	0		
1364-Mar-04	12:06:37	371	20	-7864	100	A	-t	0.9094	0.9352	58N	29W	24	579	05m41s
1364-Aug-28	00:02:59	370	20	-7858	105	T	-p	-0.8832	1.0584	52S	156E	28	409	04m06s
1365-Feb-21	12:00:55	369	20	-7852	110	A	nn	0.2073	0.9279	4N	1E	78	276	09m38s
1365-Aug-17	16:41:43	368	20	-7846	115	T	-n	-0.1716	1.0569	1N	71W	80	190	05m22s
1366-Feb-10	13:29:52	368	20	-7840	120	A	p-	-0.5016	0.9549	41S	7W	60	189	04m32s
1366-Aug-07	05:50:21	367	20	-7834	125	H	p-	0.5958	1.0051	50N	107E	53	22	00m26s
1367-Jan-30	21:53:10	366	20	-7828	130	P	t-	-1.1705	0.6812	70S	3W	0		
1367-Jun-27	21:36:07	365	20	-7823	97	P	-t	-1.4343	0.2189	67S	142W	0		
1367-Jul-27	12:05:45	365	20	-7822	135	P	t-	1.4043	0.2678	70N	149E	0		
1367-Dec-22	01:39:32	365	20	-7817	102	T	-p	0.8842	1.0366	39N	160E	28	265	03m03s
1368-Jun-15	22:19:06	364	20	-7811	107	A	-p	-0.6735	0.9557	19S	150W	48	218	05m43s
1368-Dec-10	16:17:14	363	20	-7805	112	H	-n	0.2269	1.0135	11S	62W	77	48	01m25s
1369-Jun-05	03:49:28	362	20	-7799	117	H	nn	0.1222	1.0061	30N	122E	83	21	00m37s
1369-Nov-30	01:36:55	362	20	-7793	122	A	p-	-0.4873	0.9570	51S	147E	61	179	03m55s
1370-May-25	16:28:27	361	20	-7787	127	T	t-	0.8708	1.0497	76N	124W	29	338	02m51s
1370-Nov-19	03:42:06	360	20	-7781	132	P	t-	-1.2083	0.6034	64S	18W	0		
1371-Apr-16	02:00:11	360	20	-7776	99	T	-t	-0.9508	1.0512	51S	169W	18	545	03m30s
1371-Oct-09	09:55:22	359	20	-7770	104	P	-t	1.0990	0.7953	61N	102E	0		
1372-Apr-04	16:08:59	358	20	-7764	109	H	-n	-0.2358	1.0143	3S	54W	76	50	01m22s
1372-Sep-27	17:53:13	357	20	-7758	114	H	-n	0.3304	1.0121	12N	80W	71	44	01m07s
1373-Mar-24	23:35:20	356	20	-7752	119	A	p-	0.5312	0.9561	33N	171E	58	186	04m15s
1373-Sep-17	08:14:14	356	20	-7746	124	T	n-	-0.3913	1.0573	21S	44E	67	204	04m33s
1374-Mar-14	00:29:05	355	20	-7740	129	P	t-	1.2732	0.4957	61N	85E	0		
1374-Aug-08	16:20:06	354	20	-7735	96	Pe	-t	1.4892	0.0876	62N	54E	0		
1374-Sep-07	00:48:04	354	20	-7734	134	P	t-	-1.0950	0.8345	61S	84E	0		
1375-Feb-01	09:57:35	354	20	-7729	101	A	-p	-0.9565	0.9586	67S	118E	16	525	02m39s

1375-Jul-29	03:50:50	353	20	-7723	106	A	-p	0.7991	0.9876	62N	165E	37	72	00m54s
1376-Jan-21	20:14:59	352	20	-7717	111	T	-n	-0.2141	1.0225	30S	114W	77	78	01m58s
1376-Jul-17	08:13:11	351	20	-7711	116	A	nn	0.0439	0.9533	22N	60E	87	171	05m30s
1377-Jan-10	11:19:28	351	20	-7705	121	T	n-	0.4646	1.0469	6N	7E	62	175	04m19s
1377-Jul-06	08:43:25	350	20	-7699	126	A	p-	-0.7168	0.9484	23S	40E	44	269	06m24s
1377-Dec-31	02:38:08	349	20	-7693	131	P	t-	1.1494	0.7233	64N	112E	0		
1378-May-27	02:18:07	349	20	-7688	98	P	-t	1.2335	0.5675	67N	29W	0		
1378-Jun-25	12:45:14	348	20	-7687	136	P	t-	-1.4393	0.1975	65S	34W	0		
1378-Nov-20	21:36:01	348	20	-7682	103	A-	-t	-0.9981	0.9636	68S	46E	0		
1379-May-16	16:28:57	347	20	-7676	108	T	-p	0.4396	1.0668	47N	70W	64	243	05m07s
1379-Nov-09	22:10:27	346	20	-7670	113	A	-n	-0.3275	0.9195	38S	158W	71	323	09m29s
1380-May-05	09:34:56	346	20	-7664	118	T	n-	-0.2974	1.0732	1N	39E	73	249	06m52s
1380-Oct-28	22:00:44	345	20	-7658	123	A	p-	0.3656	0.9395	5N	148W	69	240	08m01s
1381-Apr-25	00:55:44	344	20	-7652	128	P	t-	-1.0660	0.8794	70S	155W	0		
1381-Oct-18	04:00:18	343	20	-7646	133	P	t-	1.0465	0.9004	71N	167E	0		
1382-Mar-15	19:30:23	343	20	-7641	100	A	-t	0.9535	0.9344	67N	157W	17	826	05m10s
1382-Sep-08	08:02:22	342	20	-7635	105	T	-p	-0.9290	1.0541	60S	24E	21	487	03m29s
1383-Mar-04	19:25:56	341	20	-7629	110	A	nn	0.2443	0.9312	10N	112W	76	265	08m56s
1383-Aug-29	00:27:36	341	20	-7623	115	T	-n	-0.2262	1.0516	6S	170E	77	175	04m50s
1384-Feb-21	21:20:42	340	20	-7617	120	A	p-	-0.4738	0.9606	35S	126W	62	162	04m05s
1384-Aug-17	13:09:04	339	20	-7611	125	A	p-	0.5355	0.9999	42N	5W	57	1	00m01s
1385-Feb-10	06:14:24	338	20	-7605	130	P	t-	-1.1498	0.7198	71S	142W	0		
1385-Jul-08	04:02:07	338	20	-7600	97	Pe	-t	-1.5189	0.0746	68S	110E	0		
1385-Aug-06	18:51:37	338	20	-7599	135	P	t-	1.3353	0.3878	71N	35E	0		
1386-Jan-01	10:31:24	337	20	-7594	102	T	-p	0.8881	1.0366	41N	23E	27	269	03m01s
1386-Jun-27	04:49:15	336	20	-7588	107	A	-p	-0.7583	0.9561	27S	110E	40	246	05m23s
1386-Dec-22	01:00:25	336	20	-7582	112	H	-n	0.2300	1.0109	10S	168E	77	39	01m10s
1387-Jun-16	10:46:21	335	20	-7576	117	H	nn	0.0417	1.0100	26N	20E	87	35	01m03s
1387-Dec-11	09:58:27	334	20	-7570	122	A	p-	-0.4843	0.9539	52S	26E	61	193	04m16s
1388-Jun-04	23:49:24	334	20	-7564	127	T	p-	0.7945	1.0552	74N	157E	37	302	03m20s
1388-Nov-29	11:42:18	333	20	-7558	132	P	t-	-1.1999	0.6169	65S	148W	0		
1389-Apr-26	09:42:19	332	20	-7553	99	P	-t	-1.0123	0.9945	62S	91E	0		
1389-May-25	16:48:09	332	20	-7552	137	Pb	t-	1.4994	0.0549	64N	140E	0		

1389-Oct-19	17:46:24	332	20	-7547	104	P	-t	1.1226	0.7546	62N	25W	0		
1390-Apr-15	23:40:33	331	20	-7541	109	H	-n	-0.2940	1.0133	3S	167W	73	48	01m19s
1390-Oct-09	02:00:24	330	20	-7535	114	H	-n	0.3597	1.0120	10N	157E	69	44	01m07s
1391-Apr-05	06:47:39	329	20	-7529	119	A	p-	0.4762	0.9570	34N	64E	61	176	04m11s
1391-Sep-28	16:26:28	329	20	-7523	124	T	n-	-0.3542	1.0557	23S	79W	69	195	04m23s
1392-Mar-24	07:36:44	328	20	-7517	129	P	t-	1.2226	0.5808	61N	31W	0		
1392-Sep-17	08:51:01	327	20	-7511	134	P	t-	-1.0548	0.9092	61S	45W	0		
1393-Feb-11	18:02:24	327	20	-7506	101	A	-p	-0.9741	0.9628	64S	1W	12	617	02m22s
1393-Aug-08	10:56:15	326	20	-7500	106	A	-t	0.8703	0.9804	62N	70E	29	140	01m22s
1394-Feb-01	04:47:47	325	20	-7494	111	T	-n	-0.2268	1.0270	27S	119E	77	94	02m19s
1394-Jul-28	14:48:15	325	20	-7488	116	A	nn	0.1248	0.9501	24N	37W	83	184	05m40s
1395-Jan-21	20:05:22	324	20	-7482	121	T	n-	0.4555	1.0487	8N	126W	63	181	04m21s
1395-Jul-17	15:14:14	323	20	-7476	126	A	p-	-0.6318	0.9497	18S	58W	51	234	06m12s
1396-Jan-11	11:21:12	323	20	-7470	131	P	t-	1.1464	0.7287	63N	28W	0		
1396-Jun-06	09:23:30	322	20	-7465	98	P	-t	1.3046	0.4366	67N	146W	0		
1396-Jul-05	19:37:38	322	20	-7464	136	P	t-	-1.3568	0.3448	64S	147W	0		
1396-Dec-01	05:48:01	321	20	-7459	103	A-	-t	-1.0073	0.9464	67S	89W	0		
1397-May-26	23:56:49	321	20	-7453	108	T	-p	0.5101	1.0692	53N	180W	59	263	05m01s
1397-Nov-20	06:04:16	320	20	-7447	113	A	-n	-0.3407	0.9178	42S	86E	70	333	09m32s
1398-May-16	17:08:39	319	20	-7441	118	T	n-	-0.2294	1.0741	8N	76W	77	247	06m59s
1398-Nov-09	06:00:32	318	20	-7435	123	A	p-	0.3494	0.9397	1N	91E	70	238	08m07s
1399-May-06	08:18:26	318	20	-7429	128	P	t-	-1.0036	0.9948	69S	82E	0		
1399-Oct-29	12:17:06	317	20	-7423	133	P	t-	1.0257	0.9379	70N	30E	0		
1400-Mar-26	02:43:39	317	20	-7418	100	A+	-t	1.0058	0.9506	72N	34E	0		
1400-Sep-18	16:09:41	316	20	-7412	105	T	-t	-0.9684	1.0490	69S	118W	14	678	02m53s

## 15TH CENTURY CE

In the 15th century CE the total number of solar eclipses was 222 solar eclipses:  
77 partial solar eclipses, 65 annular solar eclipses (60 central annular solar eclipses

with two limits, 2 central annular solar eclipses with one limit, 3 non-central annular solar eclipses with one limit), 61 total solar eclipses (58 central total solar eclipses with two limits, 2 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 19 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
	GREATEST		S									°	km	
	ECLIPSE													
1401-Mar-15	02:42:41	315	20	-7406	110	A	nn	0.2885	0.9347	17N	137E	73	253	08m12s
1401-Sep-08	08:20:19	314	20	-7400	115	T	-n	-0.2746	1.0459	13S	50E	74	159	04m15s
1402-Mar-04	05:06:36	314	20	-7394	120	A	p-	-0.4410	0.9665	28S	116E	64	134	03m34s
1402-Aug-28	20:31:36	313	20	-7388	125	A	p-	0.4791	0.9943	34N	117W	61	23	00m33s
1403-Feb-21	14:31:40	312	20	-7382	130	P	t-	-1.1253	0.7660	72S	80E	0		
1403-Aug-18	01:41:40	312	20	-7376	135	P	t-	1.2698	0.5006	71N	80W	0		
1404-Jan-12	19:20:44	311	20	-7371	102	T	-p	0.8944	1.0369	43N	114W	26	279	02m58s
1404-Jul-07	11:22:57	311	20	-7365	107	A	-p	-0.8406	0.9558	36S	7E	33	298	05m00s
1405-Jan-01	09:41:35	310	20	-7359	112	H	-n	0.2342	1.0089	9S	37E	77	32	00m57s
1405-Jun-26	17:47:01	309	20	-7353	117	H	nn	-0.0370	1.0134	21N	85W	88	46	01m26s
1405-Dec-21	18:17:55	308	20	-7347	122	A	p-	-0.4803	0.9514	52S	94W	61	204	04m35s
1406-Jun-16	07:11:59	308	20	-7341	127	T	p-	0.7188	1.0596	69N	64E	44	283	03m48s
1406-Dec-10	19:43:51	307	20	-7335	132	P	t-	-1.1928	0.6285	66S	82E	0		
1407-May-07	17:17:20	307	20	-7330	99	P	-t	-1.0793	0.8661	63S	32W	0		
1407-Jun-06	00:16:33	306	20	-7329	137	P	t-	1.4297	0.1902	65N	18E	0		
1407-Oct-31	01:46:20	306	20	-7324	104	P	-t	1.1397	0.7251	62N	154W	0		
1408-Apr-26	07:02:08	305	20	-7318	109	H	-p	-0.3594	1.0119	3S	83E	69	44	01m13s
1408-Oct-19	10:16:57	305	20	-7312	114	H	-n	0.3820	1.0121	7N	33E	67	45	01m10s
1409-Apr-15	13:49:16	304	20	-7306	119	A	p-	0.4130	0.9577	35N	39W	65	168	04m11s
1409-Oct-09	00:48:07	303	20	-7300	124	T	n-	-0.3249	1.0539	26S	156E	71	188	04m15s
1410-Apr-04	14:35:16	303	20	-7294	129	P	t-	1.1642	0.6798	61N	144W	0		
1410-Sep-28	17:00:46	302	20	-7288	134	P	t-	-1.0207	0.9717	61S	177W	0		



1411-Feb-23	02:01:34	301	20	-7283	101	As	-p	-0.9972	0.9654	62S	106W	1	-	02m05s
1411-Aug-19	18:05:17	301	20	-7277	106	A	-t	0.9376	0.9724	62N	24W	20	284	01m52s
1412-Feb-12	13:15:00	300	20	-7271	111	T	-n	-0.2446	1.0319	24S	7W	76	111	02m42s
1412-Aug-07	21:27:44	299	20	-7265	116	A	nn	0.2018	0.9465	24N	134W	78	201	05m55s
1413-Feb-01	04:47:03	299	20	-7259	121	T	n-	0.4430	1.0509	10N	103E	64	187	04m25s
1413-Jul-27	21:50:22	298	20	-7253	126	A	p-	-0.5506	0.9506	14S	157W	57	214	05m58s
1414-Jan-21	20:00:44	297	20	-7247	131	P	t-	1.1411	0.7384	63N	167W	0		
1414-Jun-17	16:30:41	297	20	-7242	98	P	-t	1.3748	0.3062	66N	96E	0		
1414-Jul-17	02:35:01	297	20	-7241	136	P	t-	-1.2771	0.4881	63S	99E	0		
1414-Dec-12	14:01:48	296	20	-7236	103	A-	-t	-1.0145	0.9331	66S	137E	0		
1415-Jun-07	07:22:39	295	20	-7230	108	T	-p	0.5827	1.0708	59N	74E	54	284	04m51s
1415-Dec-01	14:02:30	295	20	-7224	113	A	-n	-0.3502	0.9166	44S	31W	69	339	09m31s
1416-May-27	00:38:46	294	20	-7218	118	T	nn	-0.1585	1.0742	14N	171E	81	244	06m56s
1416-Nov-19	14:05:53	294	20	-7212	123	A	p-	0.3371	0.9404	2S	32W	70	234	08m05s
1417-May-16	15:36:29	293	20	-7206	128	T	p-	-0.9379	1.0180	49S	46W	20	180	01m30s
1417-Nov-08	20:41:00	292	20	-7200	133	P	t-	1.0097	0.9670	69N	109W	0		
1418-Apr-06	09:48:08	292	20	-7195	100	P	-t	1.0642	0.8514	72N	86W	0		
1418-Sep-30	00:24:09	291	20	-7189	105	T-	-t	-1.0020	1.0113	72S	64E	0		
1419-Mar-26	09:50:55	290	20	-7183	110	A	-p	0.3399	0.9383	24N	28E	70	243	07m25s
1419-Sep-19	16:20:19	290	20	-7177	115	T	-n	-0.3162	1.0401	19S	72W	71	141	03m40s
1420-Mar-14	12:42:55	289	20	-7171	120	A	p-	-0.3995	0.9727	21S	0W	66	106	02m59s
1420-Sep-08	04:02:07	288	20	-7165	125	A	p-	0.4301	0.9885	27N	128E	64	45	01m10s
1421-Mar-03	22:40:32	288	20	-7159	130	P	t-	-1.0934	0.8264	72S	57W	0		
1421-Aug-28	08:38:52	287	20	-7153	135	P	t-	1.2101	0.6024	72N	162E	0		
1422-Jan-23	04:05:39	287	20	-7148	102	T	-p	0.9044	1.0374	47N	109E	25	296	02m54s
1422-Jul-18	18:00:58	286	20	-7142	107	A	-p	-0.9197	0.9545	47S	98W	23	427	04m35s
1423-Jan-12	18:20:17	285	20	-7136	112	H	-n	0.2400	1.0073	6S	92W	76	26	00m48s
1423-Jul-08	00:48:38	285	20	-7130	117	H2	nn	-0.1157	1.0161	15N	170E	83	55	01m45s
1424-Jan-02	02:37:14	284	20	-7124	122	A	p-	-0.4769	0.9495	51S	146E	61	211	04m52s
1424-Jun-26	14:34:23	283	20	-7118	127	T	p-	0.6425	1.0629	63N	37W	50	270	04m14s
1424-Dec-21	03:46:27	283	20	-7112	132	P	t-	-1.1867	0.6383	67S	50W	0		
1425-May-18	00:47:34	282	20	-7107	99	P	-t	-1.1498	0.7310	64S	154W	0		
1425-Jun-16	07:44:05	282	20	-7106	137	P	t-	1.3593	0.3270	66N	104W	0		

1425-Nov-10	09:54:26	282	20	-7101	104	P	-t	1.1506	0.7065	63N	75E	0		
1426-May-07	14:17:30	281	20	-7095	109	H	-p	-0.4293	1.0100	5S	26W	65	38	01m03s
1426-Oct-30	18:40:36	280	20	-7089	114	H	-n	0.3990	1.0123	5N	94W	66	46	01m13s
1427-Apr-26	20:43:38	280	20	-7083	119	A	pn	0.3444	0.9583	35N	140W	70	161	04m15s
1427-Oct-20	09:16:34	279	20	-7077	124	T	n-	-0.3010	1.0521	29S	30E	72	181	04m07s
1428-Apr-14	21:25:45	278	20	-7071	129	P	t-	1.0987	0.7915	62N	105E	0		
1428-Oct-09	01:18:08	278	20	-7065	134	Ts	t-	-0.9931	1.0281	63S	61E	5	-	01m30s
1429-Mar-05	09:54:06	277	20	-7060	101	P	-t	-1.0265	0.9337	61S	130E	0		
1429-Aug-30	01:20:28	277	20	-7054	106	A+	-t	0.9988	0.9783	61N	99W	0		
1430-Feb-22	21:35:48	276	20	-7048	111	T	-n	-0.2684	1.0369	21S	132W	74	128	03m05s
1430-Aug-19	04:13:50	275	20	-7042	116	A	np	0.2729	0.9428	24N	126E	74	219	06m13s
1431-Feb-12	13:21:48	275	20	-7036	121	T	n-	0.4246	1.0534	12N	27W	65	193	04m30s
1431-Aug-08	04:32:59	274	20	-7030	126	A	p-	-0.4738	0.9509	12S	102E	62	201	05m45s
1432-Feb-02	04:33:41	274	20	-7024	131	P	t-	1.1309	0.7571	62N	55E	0		
1432-Jun-27	23:39:41	273	20	-7019	98	P	-t	1.4445	0.1761	65N	21W	0		
1432-Jul-27	09:39:00	273	20	-7018	136	P	t-	-1.2011	0.6249	62S	16W	0		
1432-Dec-22	22:14:11	272	20	-7013	103	P	-t	-1.0224	0.9189	65S	4E	0		
1433-Jun-17	14:48:40	272	20	-7007	108	T	-p	0.6557	1.0714	64N	29W	49	309	04m38s
1433-Dec-11	22:03:42	271	20	-7001	113	A	-n	-0.3579	0.9162	45S	147W	69	342	09m25s
1434-Jun-07	08:05:18	271	20	-6995	118	T	nn	-0.0847	1.0735	19N	59E	85	239	06m45s
1434-Nov-30	22:17:32	270	20	-6989	123	A	n-	0.3291	0.9416	4S	155W	71	229	07m54s
1435-May-27	22:47:52	269	20	-6983	128	T	p-	-0.8670	1.0184	38S	160W	30	127	01m43s
1435-Nov-20	05:12:00	269	20	-6977	133	A+	t-	0.9991	0.9867	68N	112E	0		
1436-Apr-16	16:42:09	268	20	-6972	100	P	-t	1.1305	0.7385	71N	157E	0		
1436-Oct-10	08:47:26	268	20	-6966	105	P	-t	-1.0285	0.9594	71S	76W	0		
1437-Apr-05	16:52:04	267	20	-6960	110	A	-p	0.3973	0.9419	32N	79W	66	233	06m39s
1437-Sep-30	00:26:43	266	20	-6954	115	T	-n	-0.3519	1.0343	26S	165E	69	123	03m05s
1438-Mar-25	20:14:21	266	20	-6948	120	A	p-	-0.3529	0.9790	14S	115W	69	80	02m21s
1438-Sep-19	11:38:06	265	20	-6942	125	A	n-	0.3865	0.9826	20N	11E	67	66	01m51s
1439-Mar-15	06:43:32	264	20	-6936	130	P	t-	-1.0559	0.8979	72S	168E	0		
1439-Sep-08	15:42:18	264	20	-6930	135	P	t-	1.1555	0.6947	72N	42E	0		
1440-Feb-03	12:45:46	263	20	-6925	102	T	-p	0.9183	1.0380	51N	26W	23	324	02m49s
1440-Jul-29	00:45:39	263	20	-6919	107	As	-t	-0.9938	0.9505	66S	142E	5	-	04m02s

1441-Jan-23	02:52:48	262	20	-6913	112	H	-n	0.2502	1.0062	3S	139E	76	22	00m40s
1441-Jul-18	07:57:14	262	20	-6907	117	T	nn	-0.1895	1.0181	9N	62E	79	63	01m59s
1442-Jan-12	10:51:52	261	20	-6901	122	A	p-	-0.4705	0.9482	48S	26E	62	216	05m06s
1442-Jul-07	21:59:38	260	20	-6895	127	T	p-	0.5680	1.0654	56N	143W	55	261	04m39s
1443-Jan-01	11:47:19	260	20	-6889	132	P	t-	-1.1793	0.6505	68S	179E	0		
1443-May-29	08:13:08	259	20	-6884	99	P	-t	-1.2234	0.5898	65S	85E	0		
1443-Jun-27	15:11:08	259	20	-6883	137	P	t-	1.2887	0.4640	67N	133E	0		
1443-Nov-21	18:08:45	259	20	-6878	104	P	-t	1.1575	0.6947	64N	58W	0		
1444-May-17	21:24:40	258	20	-6872	109	H	-p	-0.5052	1.0074	8S	133W	60	29	00m48s
1444-Nov-10	03:12:18	257	20	-6866	114	H	-n	0.4101	1.0130	3N	137E	66	49	01m18s
1445-May-07	03:29:36	257	20	-6860	119	A	nn	0.2692	0.9585	34N	121E	74	156	04m24s
1445-Oct-30	17:52:10	256	20	-6854	124	T	n-	-0.2829	1.0505	32S	98W	73	174	04m01s
1446-Apr-26	04:09:02	256	20	-6848	129	P	t-	1.0268	0.9147	62N	5W	0		
1446-Oct-20	09:42:43	255	20	-6842	134	T	p-	-0.9719	1.0258	66S	57W	13	386	01m25s
1447-Mar-16	17:38:59	255	20	-6837	101	P	-t	-1.0628	0.8715	61S	5E	0		
1447-Sep-10	08:41:38	254	20	-6831	106	P	-t	1.0541	0.8786	61N	142E	0		
1448-Mar-05	05:49:55	253	20	-6825	111	T	-n	-0.2983	1.0421	18S	105E	73	147	03m30s
1448-Aug-29	11:07:03	253	20	-6819	116	A	-p	0.3380	0.9389	23N	24E	70	239	06m37s
1449-Feb-22	21:50:07	252	20	-6813	121	T	n-	0.4008	1.0561	14N	155W	66	200	04m36s
1449-Aug-18	11:24:03	252	20	-6807	126	A	p-	-0.4031	0.9509	11S	1W	66	194	05m35s
1450-Feb-12	13:01:21	251	20	-6801	131	P	t-	1.1169	0.7828	61N	80W	0		
1450-Jul-09	06:51:30	251	20	-6796	98	Pe	-t	1.5125	0.0485	64N	139W	0		
1450-Aug-07	16:48:47	250	20	-6795	136	P	t-	-1.1287	0.7559	62S	133W	0		
1451-Jan-03	06:25:38	250	20	-6790	103	P	-t	-1.0306	0.9046	64S	129W	0		
1451-Jun-28	22:15:26	249	20	-6784	108	T	-p	0.7287	1.0711	68N	129W	43	339	04m23s
1451-Dec-23	06:05:18	249	20	-6778	113	A	-n	-0.3650	0.9164	44S	96E	68	342	09m16s
1452-Jun-17	15:30:41	248	20	-6772	118	Tm	nn	-0.0102	1.0719	23N	51W	90	234	06m26s
1452-Dec-11	06:31:51	248	20	-6766	123	A	n-	0.3224	0.9434	5S	81E	71	221	07m32s
1453-Jun-07	05:56:42	247	20	-6760	128	T	p-	-0.7948	1.0175	29S	89E	37	99	01m45s
1453-Nov-30	13:46:15	246	20	-6754	133	A	t-	0.9904	0.9842	60N	28W	7	470	01m14s
1454-Apr-27	23:29:07	246	20	-6749	100	P	-t	1.2018	0.6169	70N	42E	0		
1454-Oct-21	17:17:29	245	20	-6743	105	P	-t	-1.0499	0.9178	71S	143E	0		
1455-Apr-16	23:43:59	245	20	-6737	110	A	-p	0.4628	0.9454	40N	176E	62	227	05m53s

1455-Oct-11	08:40:42	244	20	-6731	115	T	-n	-0.3809	1.0286	32S	40E	67	104	02m31s
1456-Apr-05	03:37:12	244	20	-6725	120	A	p-	-0.2980	0.9853	7S	131E	73	54	01m40s
1456-Sep-29	19:22:24	243	20	-6719	125	A	n-	0.3503	0.9768	14N	107W	69	88	02m36s
1457-Mar-25	14:38:14	242	20	-6713	130	P	t-	-1.0108	0.9845	72S	35E	0		
1457-Sep-18	22:54:57	242	20	-6707	135	P	t-	1.1083	0.7737	72N	81W	0		
1458-Feb-13	21:19:37	241	20	-6702	102	T	-t	0.9374	1.0386	56N	163W	20	375	02m41s
1458-Aug-09	07:36:08	241	20	-6696	107	P	-t	-1.0636	0.8591	71S	21E	0		
1459-Feb-03	11:20:39	240	20	-6690	112	H	-n	0.2638	1.0054	1N	11E	75	19	00m34s
1459-Jul-29	15:10:09	240	20	-6684	117	T	nn	-0.2605	1.0196	2N	48W	75	69	02m07s
1460-Jan-23	19:01:50	239	20	-6678	122	A	p-	-0.4607	0.9475	44S	94W	62	218	05m19s
1460-Jul-18	05:27:51	239	20	-6672	127	T	p-	0.4954	1.0669	49N	106E	60	252	05m00s
1461-Jan-11	19:46:19	238	20	-6666	132	P	t-	-1.1706	0.6651	69S	48E	0		
1461-Jun-08	15:36:17	237	20	-6661	99	P	-t	-1.2986	0.4459	66S	35W	0		
1461-Jul-07	22:39:28	237	20	-6660	137	P	t-	1.2191	0.5988	68N	10E	0		
1461-Dec-02	02:27:43	237	20	-6655	104	P	-t	1.1614	0.6883	65N	167E	0		
1462-May-29	04:28:00	236	20	-6649	109	H	-p	-0.5832	1.0042	12S	120E	54	18	00m28s
1462-Nov-21	11:49:22	236	20	-6643	114	H	-n	0.4175	1.0139	2N	7E	65	52	01m26s
1463-May-18	10:08:50	235	20	-6637	119	A	nn	0.1891	0.9584	32N	24E	79	154	04m38s
1463-Nov-11	02:33:44	235	20	-6631	124	T	n-	-0.2697	1.0490	35S	133E	74	169	03m56s
1464-May-06	10:46:56	234	20	-6625	129	A	t-	0.9502	0.9367	71N	73W	18	771	04m17s
1464-Oct-30	18:13:11	234	20	-6619	134	T	p-	-0.9561	1.0225	69S	176E	17	268	01m14s
1465-Mar-27	01:17:25	233	20	-6614	101	P	-t	-1.1051	0.7977	61S	119W	0		
1465-Sep-20	16:10:41	232	20	-6608	106	P	-t	1.1020	0.7931	61N	21E	0		
1466-Mar-16	13:57:11	232	20	-6602	111	T	-n	-0.3347	1.0471	15S	17W	70	165	03m56s
1466-Sep-09	18:07:52	231	20	-6596	116	A	-p	0.3965	0.9351	22N	80W	67	260	07m05s
1467-Mar-06	06:10:40	231	20	-6590	121	T	n-	0.3706	1.0588	17N	80E	68	207	04m44s
1467-Aug-29	18:24:27	230	20	-6584	126	A	p-	-0.3391	0.9505	11S	105W	70	191	05m29s
1468-Feb-23	21:18:53	230	20	-6578	131	P	t-	1.0953	0.8227	61N	146E	0		
1468-Aug-18	00:08:07	229	20	-6572	136	P	t-	-1.0627	0.8752	61S	108E	0		
1469-Jan-13	14:32:42	229	20	-6567	103	P	-t	-1.0420	0.8851	63S	100E	0		
1469-Jul-09	05:44:20	228	20	-6561	108	T	-p	0.8000	1.0697	69N	135E	37	380	04m06s
1470-Jan-02	14:05:54	228	20	-6555	113	A	-p	-0.3732	0.9173	43S	21W	68	339	09m02s
1470-Jun-28	22:54:54	227	20	-6549	118	T	nn	0.0650	1.0695	26N	161W	86	227	06m02s

1470-Dec-22	14:49:03	226	20	-6543	123	A	n-	0.3176	0.9458	5S	43W	72	210	07m02s
1471-Jun-18	13:00:11	226	20	-6537	128	T	p-	-0.7189	1.0157	22S	20W	44	77	01m38s
1471-Dec-11	22:25:19	225	20	-6531	133	A	t-	0.9850	0.9871	57N	165W	9	288	01m02s
1472-May-08	06:07:56	225	20	-6526	100	P	-t	1.2790	0.4849	69N	69W	0		
1472-Jun-06	20:20:29	225	20	-6525	138	Pb	t-	-1.5448	0.0209	66S	132W	0		
1472-Nov-01	01:54:25	224	20	-6520	105	P	-t	-1.0657	0.8869	70S	1E	0		
1473-Apr-27	06:30:55	224	20	-6514	110	A	-p	0.5328	0.9486	48N	73E	58	223	05m10s
1473-Oct-21	17:01:26	223	20	-6508	115	T	-p	-0.4039	1.0230	37S	85W	66	86	02m00s
1474-Apr-16	10:55:46	223	20	-6502	120	A	n-	-0.2387	0.9916	0S	20E	76	30	00m58s
1474-Oct-11	03:12:15	222	20	-6496	125	A	n-	0.3195	0.9711	8N	134E	71	109	03m22s
1475-Apr-05	22:27:40	222	20	-6490	130	T	t-	-0.9607	1.0310	60S	124W	15	386	02m08s
1475-Sep-30	06:15:12	221	20	-6484	135	P	t-	1.0676	0.8410	72N	155E	0		
1476-Feb-25	05:45:38	221	20	-6479	102	T	-t	0.9626	1.0386	63N	59E	15	491	02m29s
1476-Aug-19	14:36:12	220	20	-6473	107	P	-t	-1.1259	0.7506	71S	98W	0		
1477-Feb-13	19:40:22	220	20	-6467	112	H	-n	0.2832	1.0048	6N	115W	74	17	00m30s
1477-Aug-08	22:30:55	219	20	-6461	117	T	-n	-0.3256	1.0206	5S	161W	71	74	02m10s
1478-Feb-03	03:04:08	218	20	-6455	122	A	p-	-0.4455	0.9472	40S	146E	63	217	05m31s
1478-Jul-29	13:01:16	218	20	-6449	127	T	p-	0.4269	1.0676	41N	7W	65	244	05m18s
1479-Jan-23	03:39:43	217	20	-6443	132	P	t-	-1.1572	0.6875	70S	83W	0		
1479-Jun-19	22:56:06	217	20	-6438	99	P	-t	-1.3756	0.2992	67S	156W	0		
1479-Jul-19	06:09:14	217	20	-6437	137	P	t-	1.1510	0.7302	69N	114W	0		
1479-Dec-13	10:50:13	216	20	-6432	104	P	-t	1.1630	0.6859	66N	32E	0		
1480-Jun-08	11:26:06	216	20	-6426	109	H	-p	-0.6644	1.0002	18S	14E	48	1	00m02s
1480-Dec-01	20:30:36	215	20	-6420	114	H2	-n	0.4218	1.0155	2N	124W	65	58	01m37s
1481-May-28	16:42:57	215	20	-6414	119	Am	nn	0.1054	0.9577	29N	72W	84	155	04m57s
1481-Nov-21	11:21:11	214	20	-6408	124	T	n-	-0.2617	1.0479	37S	3E	75	165	03m53s
1482-May-17	17:18:59	214	20	-6402	129	A	t-	0.8682	0.9420	73N	137W	29	434	04m14s
1482-Nov-11	02:49:47	213	20	-6396	134	T	p-	-0.9458	1.0189	72S	44E	18	203	01m03s
1483-Apr-07	08:49:06	213	20	-6391	101	P	-t	-1.1536	0.7118	61S	120E	0		
1483-Oct-01	23:47:13	212	20	-6385	106	P	-t	1.1431	0.7203	61N	102W	0		
1484-Mar-26	21:56:45	212	20	-6379	111	T	-n	-0.3781	1.0521	14S	137W	68	185	04m22s
1484-Sep-20	01:17:53	211	20	-6373	116	A	-p	0.4474	0.9313	21N	172E	63	283	07m39s
1485-Mar-16	14:24:21	211	20	-6367	121	T	n-	0.3345	1.0615	19N	44W	70	213	04m53s

1485-Sep-09	01:33:04	210	20	-6361	126	A	p-	-0.2811	0.9500	12S	148E	74	190	05m26s
1486-Mar-06	05:29:58	210	20	-6355	131	P	t-	1.0690	0.8713	61N	15E	0		
1486-Aug-29	07:34:54	209	20	-6349	136	P	t-	-1.0018	0.9855	61S	12W	0		
1487-Jan-24	22:35:02	209	20	-6344	103	P	-t	-1.0566	0.8605	62S	29W	0		
1487-Jul-20	13:15:34	208	20	-6338	108	T	-p	0.8696	1.0673	69N	40E	29	446	03m47s
1488-Jan-13	22:03:43	208	20	-6332	113	A	-p	-0.3839	0.9188	41S	137W	67	333	08m45s
1488-Jul-09	06:20:49	207	20	-6326	118	T	-n	0.1384	1.0663	29N	89E	82	219	05m36s
1489-Jan-01	23:04:26	207	20	-6320	123	A	n-	0.3102	0.9489	4S	167W	72	197	06m24s
1489-Jun-28	20:04:23	206	20	-6314	128	H3	p-	-0.6441	1.0130	17S	127W	50	58	01m23s
1489-Dec-22	07:04:55	206	20	-6308	133	A	t-	0.9791	0.9904	55N	59E	11	175	00m47s
1490-May-19	12:41:03	205	20	-6303	100	P	-t	1.3600	0.3463	68N	179W	0		
1490-Jun-18	02:55:28	205	20	-6302	138	P	t-	-1.4661	0.1592	65S	119E	0		
1490-Nov-12	10:36:44	205	20	-6297	105	P	-t	-1.0774	0.8640	69S	142W	0		
1491-May-08	13:11:32	204	20	-6291	110	A	-p	0.6085	0.9514	57N	27W	52	225	04m30s
1491-Nov-02	01:28:45	204	20	-6285	115	T	-p	-0.4208	1.0179	42S	149E	65	68	01m32s
1492-Apr-26	18:07:08	203	20	-6279	120	A	nn	-0.1723	0.9976	7N	90W	80	8	00m16s
1492-Oct-21	11:10:34	203	20	-6273	125	A	n-	0.2964	0.9657	3N	13E	73	129	04m08s
1493-Apr-16	06:10:19	202	20	-6267	130	T	t-	-0.9042	1.0391	50S	107E	25	308	03m00s
1493-Oct-10	13:43:33	201	20	-6261	135	P	t-	1.0335	0.8969	71N	29E	0		
1494-Mar-07	14:04:18	201	20	-6256	102	Tn	-t	0.9940	1.0368	71N	99W	4	-	02m06s
1494-Aug-30	21:44:34	201	20	-6250	107	P	-t	-1.1821	0.6530	72S	141E	0		
1495-Feb-25	03:52:02	200	20	-6244	112	H	-n	0.3090	1.0044	11N	121E	72	16	00m27s
1495-Aug-20	05:58:27	200	20	-6238	117	T	-n	-0.3861	1.0210	12S	85E	67	77	02m08s
1496-Feb-14	10:59:30	199	20	-6232	122	A	p-	-0.4249	0.9474	34S	27E	65	213	05m41s
1496-Aug-08	20:40:13	199	20	-6226	127	T	n-	0.3626	1.0675	34N	122W	69	236	05m30s
1497-Feb-02	11:27:49	198	20	-6220	132	P	t-	-1.1393	0.7175	71S	148E	0		
1497-Jun-30	06:16:35	198	20	-6215	99	P	-t	-1.4514	0.1557	68S	83E	0		
1497-Jul-29	13:43:12	198	20	-6214	137	P	t-	1.0864	0.8538	70N	120E	0		
1497-Dec-23	19:14:56	197	20	-6209	104	P	-t	1.1634	0.6856	67N	105W	0		
1498-Jun-19	18:21:37	197	20	-6203	109	A	-p	-0.7466	0.9956	25S	92W	42	23	00m29s
1498-Dec-13	05:15:07	196	20	-6197	114	T	-n	0.4241	1.0174	2N	104E	65	66	01m50s
1499-Jun-08	23:13:37	196	20	-6191	119	A	nn	0.0195	0.9567	25N	168W	89	158	05m22s
1499-Dec-02	20:11:31	195	20	-6185	124	T	n-	-0.2558	1.0471	38S	127W	75	162	03m51s

1500-May-27 23:48:29 195 20 -6179 129 A p- 0.7832 0.9461 72N 152E 38 320 04m13s  
1500-Nov-21 11:30:30 194 20 -6173 134 T p- -0.9394 1.0156 76S 91W 20 159 00m52s

## 16TH CENTURY CE

In the 16th century CE the total number of solar eclipses was 228 solar eclipses: 75 partial solar eclipses, 72 annular solar eclipses (67 central annular solar eclipses with two limits, 2 central annular solar eclipses with one limit, 3 non-central annular solar eclipses with one limit), 62 total solar eclipses (61 central total solar eclipses with two limits, 1 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 19 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL	
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.	
GREATEST		S											°	km	
ECLIPSE															
1501-Apr-17	16:15:50	194	20	-6168	101	P	-t	-1.2070	0.6156	62S	1W	0			
1501-May-17	03:27:42	194	20	-6167	139	Pb	t-	1.5002	0.0905	64N	14W	0			
1501-Oct-12	07:30:03	193	20	-6162	106	P	-t	1.1783	0.6585	61N	134E	0			
1502-Apr-07	05:49:57	193	20	-6156	111	T	-n	-0.4275	1.0567	13S	105E	65	205	04m49s	
1502-Oct-01	08:36:15	192	20	-6150	116	A	-p	0.4913	0.9277	19N	63E	60	306	08m16s	
1503-Mar-27	22:28:19	192	20	-6144	121	T	n-	0.2904	1.0640	21N	164W	73	218	05m04s	
1503-Sep-20	08:52:36	191	20	-6138	126	A	n-	-0.2315	0.9494	14S	39E	77	190	05m27s	
1504-Mar-16	13:30:08	191	20	-6132	131	P	t-	1.0345	0.9348	61N	114W	0			
1504-Sep-08	15:12:13	190	20	-6126	136	A	t-	-0.9486	0.9924	55S	103W	18	83	00m32s	
1505-Feb-04	06:29:06	190	20	-6121	103	P	-t	-1.0774	0.8255	62S	157W	0			
1505-Jul-30	20:51:54	189	20	-6115	108	T	-t	0.9352	1.0635	68N	56W	20	593	03m25s	

1506-Jan-24	05:58:05	189	20	-6109	113	A	-p	-0.3978	0.9209	38S	106E	66	325	08m26s
1506-Jul-20	13:46:56	188	20	-6103	118	T	-n	0.2112	1.0623	30N	20W	78	209	05m08s
1507-Jan-13	07:20:08	188	20	-6097	123	A	n-	0.3024	0.9526	3S	68E	72	181	05m42s
1507-Jul-10	03:06:32	187	20	-6091	128	H	p-	-0.5680	1.0095	12S	126E	55	40	01m01s
1508-Jan-02	15:45:07	187	20	-6085	133	A	t-	0.9732	0.9941	53N	77W	13	92	00m28s
1508-May-29	19:09:01	187	20	-6080	100	P	-t	1.4443	0.2020	67N	73E	0		
1508-Jun-28	09:28:42	186	20	-6079	138	P	t-	-1.3860	0.2993	64S	10E	0		
1508-Nov-22	19:24:21	186	20	-6074	105	P	-t	-1.0850	0.8490	68S	75E	0		
1509-May-18	19:49:34	186	20	-6068	110	A	-p	0.6865	0.9539	65N	124W	46	233	03m56s
1509-Nov-12	10:00:13	185	20	-6062	115	H	-p	-0.4338	1.0131	46S	23E	64	50	01m06s
1510-May-08	01:16:14	185	20	-6056	120	H	nn	-0.1030	1.0033	14N	161E	84	12	00m22s
1510-Nov-01	19:13:49	184	20	-6050	125	A	n-	0.2782	0.9607	2S	109W	74	148	04m54s
1511-Apr-27	13:47:22	184	20	-6044	130	T	p-	-0.8425	1.0463	40S	15W	32	286	03m50s
1511-Oct-21	21:19:48	183	20	-6038	135	A+	t-	1.0059	0.9416	71N	99W	0		
1512-Mar-17	22:14:34	183	20	-6033	102	P	-t	1.0321	0.9517	72N	110E	0		
1512-Apr-16	06:22:23	183	20	-6032	140	Pb	t-	-1.5289	0.0003	71S	132E	0		
1512-Sep-10	05:03:24	182	20	-6027	107	P	-t	-1.2304	0.5689	72S	17E	0		
1513-Mar-07	11:54:02	182	20	-6021	112	H	-p	0.3421	1.0040	18N	2W	70	15	00m24s
1513-Aug-30	13:35:50	181	20	-6015	117	T	-n	-0.4392	1.0211	19S	32W	64	80	02m03s
1514-Feb-24	18:45:29	181	20	-6009	122	A	n-	-0.3974	0.9479	28S	90W	66	208	05m51s
1514-Aug-20	04:25:14	180	20	-6003	127	T	n-	0.3032	1.0667	27N	120E	72	228	05m38s
1515-Feb-13	19:08:18	180	20	-5997	132	P	t-	-1.1153	0.7580	71S	19E	0		
1515-Jul-11	13:36:50	180	20	-5992	99	Pe	-t	-1.5262	0.0154	68S	38W	0		
1515-Aug-09	21:21:23	180	20	-5991	137	P	t-	1.0259	0.9686	71N	7W	0		
1516-Jan-04	03:38:39	179	20	-5986	104	P	-t	1.1652	0.6830	68N	118E	0		
1516-Jun-30	01:15:14	179	20	-5980	109	A	-t	-0.8291	0.9899	34S	161E	34	64	01m03s
1516-Dec-23	14:00:49	178	20	-5974	114	T	-n	0.4256	1.0199	2N	28W	65	75	02m05s
1517-Jun-19	05:41:29	178	20	-5968	119	A	nn	-0.0683	0.9552	20N	96E	86	164	05m50s
1517-Dec-13	05:04:11	177	20	-5962	124	T	n-	-0.2520	1.0468	38S	103E	75	161	03m52s
1518-Jun-08	06:15:22	177	20	-5956	129	A	p-	0.6956	0.9496	67N	73E	46	259	04m13s
1518-Dec-02	20:14:56	176	20	-5950	134	T	p-	-0.9365	1.0124	80S	129E	20	125	00m41s
1519-Apr-28	23:35:42	176	20	-5945	101	P	-t	-1.2666	0.5071	63S	120W	0		
1519-May-28	10:20:07	176	20	-5944	139	P	t-	1.4188	0.2342	65N	126W	0		



1519-Oct-23	15:20:32	176	20	-5939	106	P	-t	1.2064	0.6096	62N	7E	0		
1520-Apr-17	13:36:44	175	20	-5933	111	T	-p	-0.4825	1.0609	13S	12W	61	226	05m15s
1520-Oct-11	16:03:18	175	20	-5927	116	A	-p	0.5277	0.9244	18N	49W	58	329	08m57s
1521-Apr-07	06:26:04	174	20	-5921	121	T	n-	0.2414	1.0662	23N	77E	76	222	05m15s
1521-Sep-30	16:21:41	174	20	-5915	126	A	nn	-0.1893	0.9489	16S	73W	79	191	05m30s
1522-Mar-27	21:22:57	173	20	-5909	131	T	t-	0.9947	1.0076	62N	128E	4	349	00m26s
1522-Sep-19	22:57:31	173	20	-5903	136	A	t-	-0.9012	0.9946	54S	146E	25	42	00m23s
1523-Feb-15	14:16:42	172	20	-5898	103	P	-t	-1.1030	0.7827	61S	77E	0		
1523-Aug-11	04:33:15	172	20	-5892	108	Tn	-t	0.9968	1.0559	63N	136W	2	-	02m44s
1524-Feb-04	13:45:34	172	20	-5886	113	A	-p	-0.4176	0.9235	35S	9W	65	315	08m05s
1524-Jul-30	21:17:37	171	20	-5880	118	T	-n	0.2797	1.0577	31N	130W	74	198	04m40s
1525-Jan-23	15:31:19	171	20	-5874	123	A	n-	0.2898	0.9569	1S	55W	73	163	04m58s
1525-Jul-20	10:11:02	170	20	-5868	128	H	p-	-0.4947	1.0054	9S	19E	60	22	00m35s
1526-Jan-13	00:22:29	170	20	-5862	133	A	t-	0.9644	0.9985	51N	149E	15	19	00m07s
1526-Jun-10	01:34:31	169	20	-5857	100	Pe	-t	1.5297	0.0558	66N	34W	0		
1526-Jul-09	16:02:40	169	20	-5856	138	P	t-	-1.3063	0.4379	64S	98W	0		
1526-Dec-04	04:14:38	169	20	-5851	105	P	-t	-1.0905	0.8382	67S	69W	0		
1527-May-30	02:22:59	169	20	-5845	110	A	-p	0.7688	0.9556	73N	145E	39	255	03m28s
1527-Nov-23	18:36:36	168	20	-5839	115	H	-p	-0.4422	1.0089	49S	102W	64	34	00m45s
1528-May-18	08:21:04	168	20	-5833	120	H	nn	-0.0290	1.0085	20N	55E	88	29	00m56s
1528-Nov-12	03:22:57	167	20	-5827	125	A	n-	0.2653	0.9562	5S	128E	75	166	05m36s
1529-May-07	21:19:48	167	20	-5821	130	T	p-	-0.7760	1.0526	31S	133W	39	276	04m38s
1529-Nov-01	05:04:10	166	20	-5815	135	An	t-	0.9846	0.9119	62N	123E	9	-	08m09s
1530-Mar-29	06:16:35	166	20	-5810	102	P	-t	1.0769	0.8672	72N	24W	0		
1530-Apr-27	14:07:18	166	20	-5809	140	P	t-	-1.4726	0.1082	70S	3E	0		
1530-Sep-21	12:31:36	166	20	-5804	107	P	-t	-1.2718	0.4970	72S	109W	0		
1531-Mar-18	19:47:20	165	20	-5798	112	H	-p	0.3817	1.0036	24N	122W	67	13	00m21s
1531-Sep-10	21:21:50	165	20	-5792	117	T	-p	-0.4856	1.0208	26S	151W	61	81	01m56s
1532-Mar-07	02:21:38	164	20	-5786	122	A	n-	-0.3625	0.9488	22S	154E	69	201	05m59s
1532-Aug-30	12:17:43	164	20	-5780	127	T	n-	0.2500	1.0654	19N	0E	75	221	05m40s
1533-Feb-24	02:42:08	163	20	-5774	132	P	t-	-1.0860	0.8077	72S	108W	0		
1533-Aug-20	05:03:59	163	20	-5768	137	T	t-	0.9693	1.0479	74N	178E	13	678	02m40s
1534-Jan-14	12:01:17	163	20	-5763	104	P	-t	1.1685	0.6779	69N	20W	0		

1534-Jul-11	08:08:45	162	20	-5757	109	A	-t	-0.9103	0.9833	45S	52E	24	144	01m35s
1535-Jan-03	22:45:48	162	20	-5751	114	T	-n	0.4285	1.0228	4N	160W	65	86	02m22s
1535-Jun-30	12:08:18	161	20	-5745	119	A	nn	-0.1565	0.9533	14N	1W	81	173	06m19s
1535-Dec-24	13:56:56	161	20	-5739	124	T	n-	-0.2483	1.0469	38S	27W	75	161	03m55s
1536-Jun-18	12:43:20	161	20	-5733	129	A	p-	0.6080	0.9523	61N	13W	52	220	04m17s
1536-Dec-13	04:59:19	160	20	-5727	134	T	p-	-0.9343	1.0098	84S	17W	20	97	00m33s
1537-May-09	06:52:55	160	20	-5722	101	P	-t	-1.3289	0.3923	63S	121E	0		
1537-Jun-07	17:14:04	160	20	-5721	139	P	t-	1.3373	0.3795	65N	120E	0		
1537-Nov-02	23:17:00	159	20	-5716	106	P	-t	1.2286	0.5713	63N	121W	0		
1538-Apr-28	21:17:29	159	20	-5710	111	T	-p	-0.5431	1.0645	14S	128W	57	249	05m38s
1538-Oct-22	23:38:40	159	20	-5704	116	A	-p	0.5572	0.9214	17N	164W	56	351	09m41s
1539-Apr-18	14:15:06	158	20	-5698	121	T	n-	0.1854	1.0680	24N	39W	79	225	05m28s
1539-Oct-12	00:01:44	158	20	-5692	126	A	nn	-0.1551	0.9484	19S	172E	81	192	05m35s
1540-Apr-07	05:04:29	157	20	-5686	131	T	p-	0.9462	1.0115	63N	35E	18	123	00m42s
1540-Sep-30	06:54:10	157	20	-5680	136	A	p-	-0.8621	0.9960	55S	29E	30	27	00m17s
1541-Feb-25	21:54:41	157	20	-5675	103	P	-t	-1.1360	0.7273	61S	46W	0		
1541-Aug-21	12:20:05	156	20	-5669	108	P	-t	1.0541	0.9172	61N	102E	0		
1541-Sep-19	20:34:00	156	20	-5668	146	Pb	t-	-1.5141	0.0378	61S	135E	0		
1542-Feb-14	21:27:22	156	20	-5663	113	A	-p	-0.4423	0.9265	33S	124W	64	305	07m44s
1542-Aug-11	04:51:04	155	20	-5657	118	T	-n	0.3454	1.0525	31N	119E	70	184	04m12s
1543-Feb-03	23:38:50	155	20	-5651	123	A	n-	0.2736	0.9617	1N	177W	74	143	04m14s
1543-Jul-31	17:16:22	155	20	-5645	128	H	p-	-0.4229	1.0007	7S	87W	65	3	00m05s
1544-Jan-24	08:57:44	154	20	-5639	133	H	t-	0.9533	1.0035	50N	16E	17	40	00m16s
1544-Jul-19	22:38:20	154	20	-5633	138	P	t-	-1.2282	0.5730	63S	154E	0		
1544-Dec-14	13:06:27	153	20	-5628	105	P	-t	-1.0948	0.8298	66S	148E	0		
1545-Jun-09	08:57:26	153	20	-5622	110	A	-p	0.8506	0.9567	81N	72E	31	303	03m06s
1545-Dec-04	03:15:40	153	20	-5616	115	H	-p	-0.4480	1.0051	50S	132E	63	20	00m25s
1546-May-29	15:24:38	152	20	-5610	120	H	nn	0.0470	1.0133	26N	51W	87	46	01m24s
1546-Nov-23	11:35:40	152	20	-5604	125	A	n-	0.2562	0.9521	7S	5E	75	181	06m13s
1547-May-19	04:48:57	151	20	-5598	130	T	p-	-0.7060	1.0581	23S	111E	45	270	05m22s
1547-Nov-12	12:54:22	151	20	-5592	135	A	p-	0.9684	0.9106	56N	5W	14	1420	08m59s
1548-Apr-08	14:10:06	151	20	-5587	102	P	-t	1.1282	0.7699	71N	157W	0		
1548-May-07	21:46:51	151	20	-5586	140	P	t-	-1.4121	0.2250	69S	124W	0		

1548-Oct-01	20:10:49	150	20	-5581	107	P	-t	-1.3049	0.4395	72S	122E	0		
1549-Mar-29	03:30:53	150	20	-5575	112	H	-p	0.4285	1.0029	31N	120E	64	11	00m16s
1549-Sep-21	05:16:22	150	20	-5569	117	T	-p	-0.5257	1.0205	33S	88E	58	82	01m49s
1550-Mar-18	09:47:47	149	20	-5563	122	A	nn	-0.3200	0.9497	15S	41E	71	194	06m05s
1550-Sep-10	20:17:36	149	20	-5557	127	T	n-	0.2029	1.0636	12N	122W	78	212	05m37s
1551-Mar-07	10:05:17	148	20	-5551	132	P	t-	-1.0477	0.8730	72S	126E	0		
1551-Aug-31	12:52:59	148	20	-5545	137	T	p-	0.9185	1.0460	66N	28E	23	391	02m52s
1552-Jan-25	20:19:42	148	20	-5540	104	P	-t	1.1760	0.6656	70N	157W	0		
1552-Jul-21	15:03:46	147	20	-5534	109	As	-t	-0.9892	0.9742	63S	65W	7	-	02m05s
1553-Jan-14	07:28:07	147	20	-5528	114	T	-n	0.4339	1.0263	6N	68E	64	99	02m41s
1553-Jul-10	18:36:33	147	20	-5522	119	A	np	-0.2430	0.9509	7N	99W	76	185	06m46s
1554-Jan-03	22:49:37	146	20	-5516	124	T	n-	-0.2447	1.0474	36S	158W	76	163	04m00s
1554-Jun-29	19:10:38	146	20	-5510	129	A	p-	0.5192	0.9546	54N	105W	58	195	04m22s
1554-Dec-24	13:45:20	146	20	-5504	134	T	p-	-0.9341	1.0075	88S	159E	20	75	00m25s
1555-May-20	14:06:05	145	20	-5499	101	P	-t	-1.3947	0.2697	64S	3E	0		
1555-Jun-19	00:07:15	145	20	-5498	139	P	t-	1.2542	0.5289	66N	7E	0		
1555-Nov-14	07:19:25	145	20	-5493	106	P	-t	1.2454	0.5424	63N	109E	0		
1556-May-09	04:53:34	145	20	-5487	111	T	-p	-0.6079	1.0673	16S	118E	52	274	05m58s
1556-Nov-02	07:22:12	144	20	-5481	116	A	-p	0.5798	0.9190	16N	79E	54	370	10m24s
1557-Apr-28	21:59:03	144	20	-5475	121	T	nn	0.1251	1.0692	24N	153W	83	227	05m42s
1557-Oct-22	07:49:26	143	20	-5469	126	A	nn	-0.1267	0.9482	21S	56E	83	192	05m40s
1558-Apr-18	12:39:26	143	20	-5463	131	T	p-	0.8930	1.0132	64N	68W	26	100	00m50s
1558-Oct-11	14:58:54	143	20	-5457	136	A	p-	-0.8290	0.9971	57S	90W	34	18	00m12s
1559-Mar-09	05:22:59	142	20	-5452	103	P	-t	-1.1760	0.6599	61S	167W	0		
1559-Sep-01	20:13:57	142	20	-5446	108	P	-t	1.1055	0.8172	61N	25W	0		
1559-Oct-01	04:46:45	142	20	-5445	146	P	t-	-1.4772	0.1083	61S	3E	0		
1560-Feb-26	05:00:43	142	20	-5440	113	A	-p	-0.4741	0.9299	30S	124E	62	294	07m22s
1560-Aug-21	12:30:54	141	20	-5434	118	T	-p	0.4050	1.0469	30N	5E	66	170	03m44s
1561-Feb-14	07:39:20	141	20	-5428	123	A	n-	0.2507	0.9670	3N	63E	75	122	03m30s
1561-Aug-11	00:27:06	141	20	-5422	128	A	n-	-0.3564	0.9956	7S	166E	69	16	00m27s
1562-Feb-03	17:27:32	140	20	-5416	133	T	t-	0.9373	1.0091	49N	114W	20	89	00m41s
1562-Jul-31	05:16:44	140	20	-5410	138	P	t-	-1.1522	0.7033	62S	45E	0		
1562-Dec-25	21:58:38	140	20	-5405	105	P	-t	-1.0990	0.8218	65S	5E	0		

1563-Jun-20	15:30:53	139	20	-5399	110	A	-t	0.9338	0.9565	81N	55E	20	454	02m49s
1563-Dec-15	11:55:48	139	20	-5393	115	H	-p	-0.4524	1.0020	50S	7E	63	8	00m10s
1564-Jun-08	22:26:47	139	20	-5387	120	H2	nn	0.1252	1.0174	31N	155W	83	60	01m44s
1564-Dec-03	19:52:05	138	20	-5381	125	A	nn	0.2504	0.9487	9S	119W	76	195	06m42s
1565-May-29	12:14:58	138	20	-5375	130	T	p-	-0.6329	1.0629	17S	4W	51	266	05m57s
1565-Nov-22	20:49:54	138	20	-5369	135	A	p-	0.9564	0.9092	51N	130W	16	1220	09m37s
1566-Apr-19	21:55:59	137	20	-5364	102	P	-t	1.1855	0.6611	71N	74E	0		
1566-May-19	05:20:58	137	20	-5363	140	P	t-	-1.3472	0.3507	68S	111E	0		
1566-Oct-13	03:59:22	137	20	-5358	107	P	-t	-1.3311	0.3940	71S	9W	0		
1567-Apr-09	11:04:07	137	20	-5352	112	H	-p	0.4830	1.0020	39N	5E	61	8	00m11s
1567-Oct-02	13:20:26	136	20	-5346	117	T	-p	-0.5584	1.0200	40S	35W	56	82	01m42s
1568-Mar-28	17:04:20	136	20	-5340	122	A	nn	-0.2701	0.9507	8S	71W	74	187	06m10s
1568-Sep-21	04:25:00	136	20	-5334	127	T	n-	0.1619	1.0615	6N	115E	81	204	05m32s
1569-Mar-17	17:21:17	135	20	-5328	132	A-	t-	-1.0034	0.9489	72S	3E	0		
1569-Sep-10	20:48:15	135	20	-5322	137	T	p-	0.8733	1.0428	57N	103W	29	293	02m55s
1570-Feb-05	04:34:48	135	20	-5317	104	P	-t	1.1866	0.6475	71N	67E	0		
1570-Aug-01	22:00:20	134	20	-5311	109	P	-t	-1.0655	0.8624	70S	172E	0		
1571-Jan-25	16:07:35	134	20	-5305	114	T	-n	0.4421	1.0302	10N	63W	64	113	02m59s
1571-Jul-22	01:07:17	134	20	-5299	119	A	-p	-0.3266	0.9481	0S	162E	71	201	07m08s
1572-Jan-15	07:38:11	133	20	-5293	124	T	n-	-0.2381	1.0485	33S	72E	76	166	04m07s
1572-Jul-10	01:42:41	133	20	-5287	129	A	p-	0.4339	0.9562	47N	160E	64	177	04m30s
1573-Jan-03	22:28:34	133	20	-5281	134	H	p-	-0.9328	1.0058	86S	54W	21	57	00m20s
1573-May-30	21:18:23	133	20	-5276	101	P	-t	-1.4618	0.1437	65S	115W	0		
1573-Jun-29	07:03:34	133	20	-5275	139	P	t-	1.1724	0.6769	67N	108W	0		
1573-Nov-24	15:24:44	132	20	-5270	106	P	-t	1.2590	0.5192	64N	21W	0		
1574-May-20	12:25:41	132	20	-5264	111	T	-p	-0.6762	1.0694	20S	4E	47	305	06m09s
1574-Nov-13	15:12:15	132	20	-5258	116	A	-p	0.5970	0.9171	15N	40W	53	387	11m03s
1575-May-10	05:34:43	131	20	-5252	121	Tm	nn	0.0584	1.0697	23N	95E	87	227	05m56s
1575-Nov-02	15:47:26	131	20	-5246	126	A	nn	-0.1061	0.9483	23S	63W	84	191	05m44s
1576-Apr-28	20:04:43	131	20	-5240	131	T	p-	0.8329	1.0140	65N	168W	33	86	00m55s
1576-Oct-21	23:13:04	130	20	-5234	136	A	p-	-0.8031	0.9981	59S	148E	36	11	00m08s
1577-Mar-19	12:41:14	130	20	-5229	103	P	-t	-1.2234	0.5799	61S	75E	0		
1577-Sep-12	04:15:21	130	20	-5223	108	P	-t	1.1507	0.7298	61N	154W	0		

1577-Oct-11	13:08:01	130	20	-5222	146	P	t-	-1.4473	0.1654	62S	131W	0		
1578-Mar-08	12:26:50	130	20	-5217	113	A	-p	-0.5120	0.9336	28S	12E	59	283	07m01s
1578-Sep-01	20:15:07	129	20	-5211	118	T	-p	0.4602	1.0408	28N	110W	62	152	03m17s
1579-Feb-25	15:34:46	129	20	-5205	123	A	n-	0.2229	0.9728	6N	56W	77	100	02m48s
1579-Aug-22	07:41:31	129	20	-5199	128	A	n-	-0.2938	0.9901	7S	57E	73	36	01m00s
1580-Feb-15	01:52:11	128	20	-5193	133	T	t-	0.9164	1.0151	48N	117E	23	127	01m07s
1580-Aug-10	12:00:04	128	20	-5187	138	P	t-	-1.0803	0.8257	62S	65W	0		
1581-Jan-05	06:49:57	128	20	-5182	105	P	-t	-1.1041	0.8121	64S	138W	0		
1581-Jun-30	22:06:52	128	20	-5176	110	P	-t	1.0151	0.9455	64N	2W	0		
1581-Dec-25	20:35:19	127	20	-5170	115	A	-p	-0.4567	0.9993	49S	119W	63	3	00m04s
1582-Jun-20	05:30:26	127	20	-5164	120	T	nn	0.2032	1.0210	35N	101E	78	73	01m59s
1582-Dec-25	04:08:38	127	20	-5158	125	A	nn	0.2457	0.9459	9S	117E	76	206	07m02s
1583-Jun-19	19:39:31	127	20	-5152	130	T	p-	-0.5581	1.0667	10S	117W	56	262	06m23s
1583-Dec-14	04:48:37	126	20	-5146	135	A	p-	0.9471	0.9083	49N	104E	18	1116	10m03s
1584-May-10	05:35:05	126	20	-5141	102	P	-t	1.2478	0.5425	70N	53W	0		
1584-Jun-08	12:52:24	126	20	-5140	140	P	t-	-1.2802	0.4805	67S	13W	0		
1584-Nov-02	11:56:43	126	20	-5135	107	P	-t	-1.3510	0.3596	70S	141W	0		
1585-Apr-29	18:28:57	125	20	-5129	112	H	-p	0.5436	1.0005	47N	108W	57	2	00m03s
1585-Oct-22	21:33:24	125	20	-5123	117	T	-p	-0.5845	1.0196	46S	159W	54	82	01m35s
1586-Apr-19	00:10:07	125	20	-5117	122	A	nn	-0.2120	0.9517	1S	179W	78	181	06m12s
1586-Oct-12	12:40:31	125	20	-5111	127	T	n-	0.1278	1.0591	0S	11W	83	196	05m23s
1587-Apr-08	00:27:04	124	20	-5105	132	A	t-	-0.9502	0.9271	60S	152W	18	889	06m26s
1587-Oct-02	04:51:23	124	20	-5099	137	T	p-	0.8352	1.0387	50N	128E	33	235	02m51s
1588-Feb-26	12:42:30	124	20	-5094	104	P	-t	1.2038	0.6178	71N	69W	0		
1588-Aug-22	05:01:46	124	20	-5088	109	P	-t	-1.1364	0.7355	71S	54E	0		
1589-Feb-15	00:42:19	123	20	-5082	114	T	-n	0.4544	1.0344	14N	167E	63	129	03m17s
1589-Aug-11	07:41:03	123	20	-5076	119	A	-p	-0.4072	0.9450	8S	61E	66	221	07m24s
1590-Feb-04	16:24:04	123	20	-5070	124	T	n-	-0.2293	1.0498	29S	59W	77	170	04m17s
1590-Jul-31	08:17:38	123	20	-5064	129	A	p-	0.3503	0.9574	39N	62E	69	166	04m38s
1591-Jan-25	07:09:21	122	20	-5058	134	H	p-	-0.9298	1.0047	82S	151E	21	45	00m16s
1591-Jun-21	04:28:42	122	20	-5053	101	Pe	-t	-1.5311	0.0130	66S				

1592-Jun-09	19:55:48	122	20	-5041	111	T	-p	-0.7465	1.0705	25S	110W	42	344	06m11s
1592-Dec-03	23:07:15	122	20	-5035	116	A	-p	0.6102	0.9159	15N	160W	52	401	11m36s
1593-May-30	13:07:29	121	20	-5029	121	T	nn	-0.0106	1.0696	21N	17W	90	227	06m08s
1593-Nov-22	23:52:05	121	20	-5023	126	A	nn	-0.0906	0.9488	25S	177E	85	189	05m46s
1594-May-20	03:23:16	121	20	-5017	131	T	p-	0.7678	1.0141	65N	94E	40	76	00m58s
1594-Nov-12	07:34:48	121	20	-5011	136	A	p-	-0.7829	0.9991	62S	25E	38	5	00m04s
1595-Apr-09	19:50:04	120	20	-5006	103	P	-t	-1.2776	0.4880	61S	41W	0		
1595-Oct-03	12:24:35	120	20	-5000	108	P	-t	1.1896	0.6546	61N	75E	0		
1595-Nov-01	21:36:52	120	20	-4999	146	P	t-	-1.4234	0.2111	62S	93E	0		
1596-Mar-28	19:43:17	120	20	-4994	113	A	-p	-0.5583	0.9373	26S	97W	56	275	06m41s
1596-Sep-22	04:07:01	120	20	-4988	118	T	-p	0.5084	1.0346	27N	133E	59	134	02m50s
1597-Mar-17	23:22:38	119	20	-4982	123	A	n-	0.1879	0.9788	8N	173W	79	77	02m08s
1597-Sep-11	15:01:20	119	20	-4976	128	A	nn	-0.2363	0.9843	8S	52W	76	57	01m35s
1598-Mar-07	10:10:00	119	20	-4970	133	T	p-	0.8894	1.0214	48N	8W	27	156	01m33s
1598-Aug-31	18:48:46	119	20	-4964	138	A-	t-	-1.0126	0.9397	61S	176W	0		
1599-Jan-26	15:37:09	119	20	-4959	105	P	-t	-1.1125	0.7965	63S	81E	0		
1599-Jul-22	04:45:14	118	20	-4953	110	P	-t	1.0949	0.8068	63N	111W	0		
1600-Jan-16	05:12:45	118	20	-4947	115	A	-p	-0.4622	0.9972	47S	116E	62	11	00m14s
1600-Jul-10	12:35:57	117	20	-4941	120	T	-n	0.2803	1.0238	38N	3W	74	84	02m08s

## 17TH CENTURY CE

In the 17th century CE the total number of solar eclipses was 248 solar eclipses: 89 partial solar eclipses, 74 annular solar eclipses (74 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 61 total solar eclipses (60 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 24 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
	GREATEST		S									°	km	
	ECLIPSE													
1601-Jan-04	12:24:37	117	20	-4935	125	A	nn	0.2410	0.9437	9S	7W	76	214	07m13s
1601-Jun-30	03:03:58	117	20	-4929	130	T	p-	-0.4826	1.0697	5S	131E	61	259	06m37s
1601-Dec-24	12:50:30	116	20	-4923	135	A	p-	0.9402	0.9078	47N	22W	19	1051	10m14s
1602-May-21	13:06:43	116	20	-4918	102	P	-t	1.3157	0.4133	69N	178W	0		
1602-Jun-19	20:19:20	116	20	-4917	140	P	t-	-1.2097	0.6173	66S	136W	0		
1602-Nov-13	20:03:04	115	20	-4912	107	P	-t	-1.3643	0.3364	70S	85E	0		
1603-May-11	01:44:58	115	19	-4906	112	A	-p	0.6107	0.9987	55N	143E	52	6	00m07s
1603-Nov-03	05:54:54	114	19	-4900	117	T	-p	-0.6041	1.0193	51S	76E	53	83	01m31s
1604-Apr-29	07:07:20	114	19	-4894	122	A	nn	-0.1474	0.9525	6N	75E	82	176	06m12s
1604-Oct-22	21:03:47	113	19	-4888	127	T	n-	0.1000	1.0567	6S	138W	84	188	05m12s
1605-Apr-18	07:26:43	112	19	-4882	132	A	p-	-0.8918	0.9327	50S	90E	26	553	06m43s
1605-Oct-12	12:59:57	112	19	-4876	137	T	p-	0.8023	1.0344	43N	1E	36	193	02m43s
1606-Mar-08	20:45:38	111	19	-4871	104	P	-t	1.2253	0.5801	72N	156E	0		
1606-Sep-02	12:07:22	111	19	-4865	109	P	-t	-1.2026	0.6183	72S	66W	0		
1607-Feb-26	09:10:37	110	19	-4859	114	T	-n	0.4727	1.0388	18N	38E	62	147	03m34s
1607-Aug-22	14:20:47	110	19	-4853	119	A	-p	-0.4824	0.9416	16S	41W	61	245	07m34s
1608-Feb-16	01:03:27	109	19	-4847	124	T	n-	-0.2154	1.0515	25S	172E	77	175	04m29s
1608-Aug-10	15:00:05	109	19	-4841	129	A	pn	0.2722	0.9581	31N	40W	74	158	04m46s
1609-Feb-04	15:43:42	108	19	-4835	134	H	p-	-0.9224	1.0041	77S	7E	22	37	00m15s
1609-Jul-30	21:07:07	107	19	-4829	139	P	t-	1.0140	0.9656	69N	18E	0		
1609-Dec-26	07:43:33	107	19	-4824	106	P	-t	1.2776	0.4878	66N	74E	0		
1610-Jun-21	03:22:59	106	18	-4818	111	T	-p	-0.8193	1.0705	32S	135E	35	400	05m59s
1610-Dec-15	07:06:47	106	18	-4812	116	A	-p	0.6195	0.9153	15N	78E	52	409	11m56s
1611-Jun-10	20:34:24	105	18	-4806	121	T	nn	-0.0836	1.0686	18N	128W	85	224	06m16s
1611-Dec-04	08:03:42	104	18	-4800	126	A	nn	-0.0803	0.9498	27S	56E	85	185	05m44s
1612-May-30	10:34:28	104	18	-4794	131	T	p-	0.6976	1.0135	64N	2W	45	65	00m58s
1612-Nov-22	16:04:34	103	18	-4788	136	H	p-	-0.7692	1.0002	66S	98W	39	1	00m01s

1613-Apr-20	02:49:28	103	18	-4783	103	P	-t	-1.3388	0.3839	62S	154W	0		
1613-May-19	17:43:35	103	18	-4782	141	Pb	t-	1.5171	0.0712	63N	138E	0		
1613-Oct-13	20:40:23	102	18	-4777	108	P	-t	1.2231	0.5902	61N	58W	0		
1613-Nov-12	06:12:14	102	18	-4776	146	P	t-	-1.4048	0.2464	63S	45W	0		
1614-Apr-09	02:52:56	101	18	-4771	113	A	-p	-0.6103	0.9411	26S	156E	52	268	06m22s
1614-Oct-03	12:04:50	101	18	-4765	118	T	-p	0.5511	1.0282	25N	14E	56	113	02m23s
1615-Mar-29	07:03:23	100	18	-4759	123	A	nn	0.1461	0.9851	11N	72E	82	53	01m28s
1615-Sep-22	22:27:20	100	18	-4753	128	A	nn	-0.1850	0.9784	9S	164W	79	78	02m11s
1616-Mar-17	18:21:44	99	18	-4747	133	T	p-	0.8568	1.0280	48N	131W	31	180	01m58s
1616-Sep-11	01:44:04	98	17	-4741	138	A	t-	-0.9506	0.9319	54S	102E	18	808	05m42s
1617-Feb-06	00:20:22	98	17	-4736	105	P	-t	-1.1240	0.7751	62S	59W	0		
1617-Mar-07	10:05:35	98	17	-4735	143	Pb	t-	1.5110	0.0419	61N	49W	0		
1617-Aug-01	11:29:43	97	17	-4730	110	P	-t	1.1701	0.6756	63N	138E	0		
1618-Jan-26	13:46:43	96	17	-4724	115	A	-p	-0.4700	0.9955	45S	10W	62	18	00m23s
1618-Jul-21	19:44:29	96	17	-4718	120	T	-n	0.3558	1.0260	40N	106W	69	94	02m13s
1619-Jan-15	20:38:06	95	17	-4712	125	A	nn	0.2349	0.9422	8S	130W	76	220	07m16s
1619-Jul-11	10:29:58	94	17	-4706	130	T	p-	-0.4078	1.0718	1S	19E	66	255	06m41s
1620-Jan-04	20:51:03	94	17	-4700	135	A	p-	0.9322	0.9081	45N	146W	21	976	10m13s
1620-May-31	20:33:44	93	17	-4695	102	P	-t	1.3868	0.2783	68N	58E	0		
1620-Jun-30	03:46:24	93	17	-4694	140	P	t-	-1.1393	0.7535	65S	102E	0		
1620-Nov-24	04:16:34	92	17	-4689	107	P	-t	-1.3729	0.3213	69S	51W	0		
1621-May-21	08:53:43	92	17	-4683	112	A	-p	0.6827	0.9962	63N	36E	47	18	00m18s
1621-Nov-13	14:23:12	91	17	-4677	117	T	-p	-0.6187	1.0194	56S	50W	52	84	01m28s
1622-May-10	13:55:34	90	17	-4671	122	Am	nn	-0.0758	0.9531	13N	29W	86	172	06m07s
1622-Nov-03	05:34:47	90	17	-4665	127	T	n-	0.0789	1.0544	11S	94E	86	180	05m01s
1623-Apr-29	14:15:59	89	17	-4659	132	A	p-	-0.8244	0.9378	40S	20W	34	405	06m54s
1623-Oct-23	21:17:09	88	16	-4653	137	T	p-	0.7770	1.0298	38N	128W	39	159	02m31s
1624-Mar-19	04:40:35	88	16	-4648	104	P	-t	1.2540	0.5288	72N	23E	0		
1624-Apr-17	17:16:17	87	16	-4647	142	Pb	t-	-1.5208	0.0582	71S	23W	0		
1624-Sep-12	19:19:25	87	16	-4642	109	P	-t	-1.2624	0.5133	72S	171E	0		
1624-Oct-12	08:53:54	87	16	-4641	147	Pb	t-	1.5466	0.0089	72N	110E	0		
1625-Mar-08	17:32:38	86	16	-4636	114	T	-p	0.4965	1.0434	24N	89W	60	166	03m50s
1625-Sep-01	21:06:57	85	16	-4630	119	A	-p	-0.5520	0.9380	24S	146W	56	274	07m37s



1626-Feb-26	09:37:26	85	16	-4624	124	T	n-	-0.1971	1.0535	20S	43E	79	180	04m42s
1626-Aug-21	21:47:41	84	16	-4618	129	A	nn	0.1976	0.9584	23N	143W	78	154	04m54s
1627-Feb-16	00:13:30	83	16	-4612	134	H	p-	-0.9119	1.0040	72S	131W	24	34	00m15s
1627-Aug-11	04:17:13	82	16	-4606	139	H	t-	0.9401	1.0001	78N	173W	19	1	00m00s
1628-Jan-06	15:52:51	82	16	-4601	106	P	-t	1.2858	0.4740	67N	59W	0		
1628-Jul-01	10:50:38	81	16	-4595	111	T	-t	-0.8917	1.0692	40S	20E	27	501	05m32s
1628-Dec-25	15:08:46	80	16	-4589	116	A	-p	0.6264	0.9153	15N	44W	51	413	12m02s
1629-Jun-21	03:59:23	80	16	-4583	121	T	-n	-0.1580	1.0670	15N	122E	81	221	06m20s
1629-Dec-14	16:19:06	79	16	-4577	126	A	nn	-0.0726	0.9513	28S	66W	86	179	05m38s
1630-Jun-10	17:41:06	78	15	-4571	131	H	p-	0.6245	1.0122	61N	98W	51	54	00m55s
1630-Dec-04	00:38:58	78	15	-4565	136	H	p-	-0.7585	1.0017	69S	140E	40	9	00m07s
1631-May-01	09:39:22	77	15	-4560	103	P	-t	-1.4069	0.2678	62S	94E	0		
1631-May-31	00:25:37	77	15	-4559	141	P	t-	1.4433	0.1996	64N	28E	0		
1631-Oct-25	05:04:14	76	15	-4554	108	P	-t	1.2502	0.5385	62N	167E	0		
1631-Nov-23	14:53:43	76	15	-4553	146	P	t-	-1.3912	0.2723	63S	175E	0		
1632-Apr-19	09:54:29	75	15	-4548	113	A	-p	-0.6694	0.9447	26S	51E	48	267	06m03s
1632-Oct-13	20:09:38	75	15	-4542	118	T	-p	0.5872	1.0220	24N	108W	54	91	01m55s
1633-Apr-08	14:37:05	74	15	-4536	123	A	nn	0.0976	0.9913	12N	41W	84	31	00m51s
1633-Oct-03	06:00:37	73	15	-4530	128	Am	nn	-0.1405	0.9726	11S	83E	82	99	02m48s
1634-Mar-29	02:25:10	72	15	-4524	133	T	p-	0.8169	1.0346	49N	109E	35	198	02m24s
1634-Sep-22	08:47:03	72	15	-4518	138	A	p-	-0.8947	0.9300	52S	2E	26	572	06m03s
1635-Feb-17	08:57:23	71	15	-4513	105	P	-t	-1.1407	0.7441	62S	163E	0		
1635-Mar-18	18:24:52	71	15	-4512	143	P	t-	1.4813	0.0973	61N	178E	0		
1635-Aug-12	18:20:09	70	15	-4507	110	P	-t	1.2411	0.5514	62N	27E	0		
1636-Feb-06	22:14:32	70	15	-4501	115	A	-p	-0.4825	0.9943	42S	135W	61	23	00m29s
1636-Aug-01	02:58:15	69	15	-4495	120	T	-p	0.4279	1.0275	41N	149E	64	103	02m15s
1637-Jan-26	04:48:31	68	14	-4489	125	A	nn	0.2265	0.9412	6S	107E	77	223	07m12s
1637-Jul-21	17:57:08	67	14	-4483	130	T	n-	-0.3335	1.0731	2N	93W	71	251	06m37s
1638-Jan-15	04:51:53	67	14	-4477	135	A	p-	0.9242	0.9090	44N	89E	22	907	10m00s
1638-Jun-12	03:55:43	66	14	-4472	102	Pe	-t	1.4614	0.1371	67N	63W	0		
1638-Jul-11	11:11:51	66	14	-4471	140	P	t-	-1.0676	0.8916	64S	19W	0		
1638-Dec-05	12:36:34	65	14	-4466	107	P	-t	-1.3768	0.3144	67S	173E	0		
1639-Jan-04	04:56:18	65	14	-4465	145	Pb	t-	1.5651	0.0009	65N	80E	0		

1639-Jun-01	15:55:15	65	14	-4460	112	A	-p	0.7597	0.9930	72N	65W	40	38	00m31s
1639-Nov-24	22:58:54	64	14	-4454	117	T	-p	-0.6278	1.0197	60S	175W	51	87	01m27s
1640-May-20	20:37:51	63	14	-4448	122	A	nn	0.0002	0.9533	20N	130W	90	171	06m00s
1640-Nov-13	14:11:19	62	14	-4442	127	T	n-	0.0623	1.0522	15S	36W	87	173	04m50s
1641-May-09	21:01:18	62	14	-4436	132	A	p-	-0.7533	0.9425	31S	127W	41	321	06m56s
1641-Nov-03	05:40:08	61	14	-4430	137	T	p-	0.7570	1.0252	33N	102E	41	130	02m15s
1642-Mar-30	12:29:28	60	14	-4425	104	P	-t	1.2883	0.4669	72N	108W	0		
1642-Apr-29	00:29:42	60	14	-4424	142	P	t-	-1.4586	0.1660	71S	145W	0		
1642-Sep-24	02:37:36	60	14	-4419	109	P	-t	-1.3163	0.4200	72S	48E	0		
1642-Oct-23	16:48:35	59	14	-4418	147	P	t-	1.5221	0.0551	71N	22W	0		
1643-Mar-20	01:47:18	59	14	-4413	114	T	-p	0.5271	1.0479	30N	145E	58	186	04m02s
1643-Sep-13	04:01:20	58	13	-4407	119	A	-p	-0.6144	0.9343	32S	106E	52	307	07m35s
1644-Mar-08	18:02:42	57	13	-4401	124	T	n-	-0.1717	1.0555	14S	85W	80	186	04m57s
1644-Sep-01	04:45:27	57	13	-4395	129	A	nn	0.1307	0.9584	15N	111E	82	152	05m00s
1645-Feb-26	08:35:06	56	13	-4389	134	H	p-	-0.8956	1.0043	67S	94E	26	34	00m17s
1645-Aug-21	11:34:17	55	13	-4383	139	H	t-	0.8710	1.0040	68N	44E	29	28	00m16s
1646-Jan-16	23:59:17	55	13	-4378	106	P	-t	1.2956	0.4574	69N	168E	0		
1646-Jul-12	18:18:18	54	13	-4372	111	T	-t	-0.9640	1.0658	53S	98W	15	834	04m44s
1647-Jan-05	23:10:59	53	13	-4366	116	A	-p	0.6336	0.9161	17N	167W	51	413	11m50s
1647-Jul-02	11:21:20	52	13	-4360	121	T	-n	-0.2344	1.0643	10N	11E	77	217	06m15s
1647-Dec-26	00:38:34	52	13	-4354	126	A	nn	-0.0675	0.9535	27S	171E	86	170	05m25s
1648-Jun-21	00:43:21	51	13	-4348	131	H	p-	0.5483	1.0102	57N	164E	56	42	00m49s
1648-Dec-14	09:17:54	50	13	-4342	136	H	p-	-0.7510	1.0035	71S	20E	41	18	00m14s
1649-May-11	16:22:04	50	13	-4337	103	P	-t	-1.4800	0.1428	63S	16W	0		
1649-Jun-10	07:02:36	50	13	-4336	141	P	t-	1.3658	0.3345	65N	81W	0		
1649-Nov-04	13:35:07	49	13	-4331	108	P	-t	1.2716	0.4978	62N	30E	0		
1649-Dec-03	23:40:37	49	13	-4330	146	P	t-	-1.3820	0.2896	64S	34E	0		
1650-Apr-30	16:48:48	48	12	-4325	113	A	-p	-0.7347	0.9481	28S	53W	43	274	05m43s
1650-Oct-25	04:21:25	48	12	-4319	118	T	-p	0.6170	1.0159	22N	128E	52	68	01m26s
1651-Apr-19	22:04:36	47	12	-4313	123	A	nn	0.0433	0.9976	14N	152W	87	8	00m14s
1651-Oct-14	13:40:55	46	12	-4307	128	A	nn	-0.1025	0.9668	14S	31W	84	120	03m27s
1652-Apr-08	10:22:27	45	12	-4301	133	T	p-	0.7713	1.0412	50N	9W	39	213	02m49s
1652-Oct-02	15:58:29	45	12	-4295	138	A	p-	-0.8459	0.9275	51S	103W	32	497	06m19s

1653-Feb-27	17:28:49	44	12	-4290	105	P	-t	-1.1619	0.7043	61S	26E	0			
1653-Mar-29	02:38:06	44	12	-4289	143	P	t-	1.4469	0.1621	61N	46E	0			
1653-Aug-23	01:17:26	44	12	-4284	110	P	-t	1.3072	0.4357	62N	87W	0			
1653-Sep-21	15:55:43	43	12	-4283	148	Pb	t-	-1.5450	0.0324	61S	150W	0			
1654-Feb-17	06:36:37	43	12	-4278	115	A	-p	-0.4991	0.9933	38S	101E	60	27	00m34s	
1654-Aug-12	10:17:42	42	12	-4272	120	T	-p	0.4962	1.0285	42N	42E	60	110	02m16s	
1655-Feb-06	12:51:54	41	12	-4266	125	A	nn	0.2130	0.9408	4S	14W	78	224	07m03s	
1655-Aug-02	01:28:36	41	12	-4260	130	T	n-	-0.2625	1.0735	4N	154E	75	247	06m28s	
1656-Jan-26	12:48:09	40	12	-4254	135	A	p-	0.9122	0.9106	43N	34W	24	820	09m38s	
1656-Jul-21	18:39:47	39	12	-4248	140	T-	t-	-0.9983	1.0244	63S	141W	0			
1656-Dec-15	20:59:51	39	11	-4243	107	P	-t	-1.3790	0.3102	66S	36E	0			
1657-Jan-14	13:08:11	39	11	-4242	145	P	t-	1.5547	0.0171	64N	53W	0			
1657-Jun-11	22:52:09	38	11	-4237	112	A	-t	0.8394	0.9888	80N	154W	33	73	00m45s	
1657-Dec-05	07:39:36	38	11	-4231	117	T	-p	-0.6335	1.0205	62S	61E	50	91	01m29s	
1658-Jun-01	03:11:37	37	11	-4225	122	A	nn	0.0828	0.9532	27N	131E	85	172	05m49s	
1658-Nov-24	22:54:41	36	11	-4219	127	T	nn	0.0514	1.0502	18S	166W	87	167	04m40s	
1659-May-21	03:38:52	36	11	-4213	132	A	p-	-0.6747	0.9469	22S	129E	47	264	06m50s	
1659-Nov-14	14:10:07	35	11	-4207	137	T	p-	0.7432	1.0208	29N	28W	42	106	01m56s	
1660-Apr-09	20:10:11	35	11	-4202	104	P	-t	1.3301	0.3907	72N	123E	0			
1660-May-09	07:36:44	34	11	-4201	142	P	t-	-1.3898	0.2868	70S	96E	0			
1660-Oct-04	10:03:43	34	11	-4196	109	P	-t	-1.3629	0.3402	72S	78W	0			
1660-Nov-03	00:50:38	34	11	-4195	147	P	t-	1.5039	0.0898	70N	156W	0			
1661-Mar-30	09:55:23	33	11	-4190	114	T	-p	0.5634	1.0524	37N	20E	55	209	04m12s	
1661-Sep-23	11:02:33	33	11	-4184	119	A	-p	-0.6711	0.9306	40S	3W	48	347	07m29s	
1662-Mar-20	02:21:48	32	11	-4178	124	T	n-	-0.1414	1.0576	8S	149E	82	192	05m11s	
1662-Sep-12	11:50:44	32	11	-4172	129	A	nn	0.0694	0.9582	8N	3E	86	153	05m05s	
1663-Mar-09	16:48:41	31	11	-4166	134	H	p-	-0.8735	1.0049	60S	37W	29	35	00m21s	
1663-Sep-01	18:59:08	30	10	-4160	139	H	p-	0.8073	1.0065	59N	79W	36	38	00m29s	
1664-Jan-28	08:02:30	30	10	-4155	106	P	-t	1.3074	0.4377	70N	35E	0			
1664-Jul-23	01:48:45	29	10	-4149	111	P	-t	-1.0342	0.9581	69S	135E	0			
1664-Aug-21	08:58:23	29	10	-4148	149	Pb	t-	1.4871	0.0844	71N	174E	0			
1665-Jan-16	07:11:51	29	10	-4143	116	A	-p	0.6419	0.9174	19N	71E	50	409	11m24s	
1665-Jul-12	18:44:05	28	10	-4137	121	T	-n	-0.3095	1.0611	4N	101W	72	211	06m02s	

1666-Jan-05	08:58:50	28	10	-4131	126	A	nn	-0.0624	0.9562	26S	47E	86	160	05m07s
1666-Jul-02	07:42:29	27	10	-4125	131	H	p-	0.4705	1.0075	51N	64E	62	29	00m39s
1666-Dec-25	17:59:15	26	10	-4119	136	H	p-	-0.7452	1.0058	72S	98W	42	30	00m24s
1667-May-22	22:57:59	26	10	-4114	103	Pe	-t	-1.5574	0.0103	63S	124W	0		
1667-Jun-21	13:36:07	26	10	-4113	141	P	t-	1.2858	0.4732	66N	170E	0		
1667-Nov-15	22:12:05	25	10	-4108	108	P	-t	1.2880	0.4667	63N	108W	0		
1667-Dec-15	08:29:58	25	10	-4107	146	P	t-	-1.3752	0.3024	65S	108W	0		
1668-May-10	23:37:24	25	10	-4102	113	A	-p	-0.8048	0.9510	32S	155W	36	296	05m21s
1668-Nov-04	12:40:05	24	10	-4096	118	H	-p	0.6401	1.0102	21N	2E	50	45	00m57s
1669-Apr-30	05:26:06	24	10	-4090	123	H	nn	-0.0170	1.0036	14N	98E	89	13	00m22s
1669-Oct-24	21:28:04	23	10	-4084	128	A	nn	-0.0710	0.9613	16S	148W	86	141	04m07s
1670-Apr-19	18:12:20	23	9	-4078	133	T	p-	0.7191	1.0476	51N	123W	44	225	03m15s
1670-Oct-13	23:19:00	22	9	-4072	138	A	p-	-0.8043	0.9247	52S	149E	36	467	06m34s
1671-Mar-11	01:50:57	22	9	-4067	105	P	-t	-1.1906	0.6505	61S	108W	0		
1671-Apr-09	10:41:24	22	9	-4066	143	P	t-	1.4047	0.2423	61N	84W	0		
1671-Sep-03	08:23:56	21	9	-4061	110	P	-t	1.3664	0.3319	61N	158E	0		
1671-Oct-02	23:13:21	21	9	-4060	148	P	t-	-1.4952	0.1177	61S	92E	0		
1672-Feb-28	14:50:42	21	9	-4055	115	A	-p	-0.5218	0.9926	35S	22W	58	30	00m38s
1672-Aug-22	17:44:06	20	9	-4049	120	T	-p	0.5593	1.0288	41N	66W	56	117	02m15s
1673-Feb-16	20:49:18	20	9	-4043	125	A	nn	0.1951	0.9409	2S	134W	79	223	06m52s
1673-Aug-12	09:04:05	19	9	-4037	130	T	n-	-0.1946	1.0731	5N	41E	79	242	06m15s
1674-Feb-05	20:41:35	19	9	-4031	135	A	p-	0.8979	0.9129	43N	156W	26	736	09m09s
1674-Aug-02	02:07:57	19	9	-4025	140	T	t-	-0.9295	1.0560	46S	121E	21	498	04m08s
1674-Dec-27	05:27:32	18	9	-4020	107	P	-t	-1.3784	0.3109	65S	101W	0		
1675-Jan-25	21:19:47	18	9	-4019	145	P	t-	1.5434	0.0346	63N	175E	0		
1675-Jun-23	05:44:38	18	9	-4014	112	A	-t	0.9219	0.9835	84N	166W	22	154	01m01s
1675-Dec-16	16:24:03	17	9	-4008	117	T	-p	-0.6367	1.0218	63S	62W	50	97	01m33s
1676-Jun-11	09:42:36	17	9	-4002	122	A	nn	0.1672	0.9527	33N	35E	80	176	05m38s
1676-Dec-05	07:42:07	17	8	-3996	127	T	nn	0.0435	1.0486	20S	62E	88	162	04m30s
1677-May-31	10:13:52	16	8	-3990	132	A	p-	-0.5935	0.9510	14S	27E	53	223	06m35s
1677-Nov-24	22:44:02	16	8	-3984	137	T	p-	0.7332	1.0166	26N	160W	43	84	01m36s
1678-Apr-21	03:45:49	15	8	-3979	104	P	-t	1.3765	0.3050	71N	4W	0		
1678-May-20	14:40:42	15	8	-3978	142	P	t-	-1.3172	0.4158	69S	22W	0		

1678-Oct-15	17:36:58	15	8	-3973	109	P	-t	-1.4026	0.2731	72S	154E	0					
1678-Nov-14	08:58:13	15	8	-3972	147	P	t-	1.4908	0.1148	69N	69E	0					
1679-Apr-10	17:55:12	15	8	-3967	114	T	-p	0.6070	1.0565	44N	102W	52	233	04m17s			
1679-Oct-04	18:13:56	14	8	-3961	119	A	-p	-0.7191	0.9270	48S	115W	44	391	07m21s			
1680-Mar-30	10:32:00	14	8	-3955	124	T	nn	-0.1039	1.0595	2S	25E	84	197	05m25s			
1680-Sep-22	19:06:23	14	8	-3949	129	A	nn	0.0160	0.9578	1N	108W	89	153	05m08s			
1681-Mar-20	00:52:58	13	8	-3943	134	H	p-	-0.8445	1.0057	54S	165W	32	37	00m26s			
1681-Sep-12	02:33:12	13	8	-3937	139	H	p-	0.7504	1.0083	50N	161E	41	43	00m40s			
1682-Feb-07	15:59:21	13	8	-3932	106	P	-t	1.3238	0.4101	70N	97W	0					
1682-Aug-03	09:21:10	12	8	-3926	111	P	-t	-1.1028	0.8246	70S	10E	0					
1682-Sep-01	16:42:24	12	8	-3925	149	P	t-	1.4280	0.1978	72N	44E	0					
1683-Jan-27	15:10:08	12	8	-3920	116	A	-p	0.6525	0.9195	22N	51W	49	401	10m44s			
1683-Jul-24	02:06:59	12	7	-3914	121	T	-p	-0.3838	1.0569	2S	147E	67	203	05m38s			
1684-Jan-16	17:18:52	11	7	-3908	126	A	nn	-0.0565	0.9597	24S	77W	87	147	04m43s			
1684-Jul-12	14:40:34	11	7	-3902	131	H	p-	0.3927	1.0041	45N	37W	67	16	00m23s			
1685-Jan-05	02:42:50	11	7	-3896	136	H	p-	-0.7409	1.0086	71S	143E	42	44	00m35s			
1685-Jul-01	20:06:06	11	7	-3890	141	P	t-	1.2030	0.6163	67N	62E	0					
1685-Nov-26	06:54:43	10	7	-3885	108	P	-t	1.3000	0.4443	64N	112E	0					
1685-Dec-25	17:22:34	10	7	-3884	146	P	t-	-1.3710	0.3102	66S	108E	0					
1686-May-22	06:21:19	10	7	-3879	113	A	-p	-0.8791	0.9533	39S	103E	28	353	04m56s			
1686-Nov-15	21:04:59	10	7	-3873	118	H	-p	0.6578	1.0048	20N	126W	49	22	00m28s			
1687-May-11	12:42:28	10	7	-3867	123	H	nn	-0.0827	1.0094	14N	10W	85	33	00m57s			
1687-Nov-05	05:22:24	10	7	-3861	128	A	nn	-0.0460	0.9561	18S	94E	87	160	04m49s			
1688-Apr-30	01:57:33	9	7	-3855	133	T	p-	0.6621	1.0535	51N	124E	48	234	03m40s			
1688-Oct-24	06:46:41	9	7	-3849	138	A	p-	-0.7686	0.9221	54S	39E	39	453	06m49s			
1689-Mar-21	10:06:41	9	7	-3844	105	P	-t	-1.2245	0.5868	61S	119E	0					
1689-Apr-19	18:39:22	9	7	-3843	143	P	t-	1.3581	0.3313	62N	148E	0					
1689-Sep-13	15:39:21	9	7	-3838	110	P	-t	1.4190	0.2395	61N	40E	0					
1689-Oct-13	06:40:02	9	7	-3837	148	P	t-	-1.4517	0.1920	61S	28W	0					
1690-Mar-10	22:56:00	9	6	-3832	115	A	-p	-0.5511	0.9920	33S	143W	56	33	00m42s			
1690-Sep-03	01:17:46	9	6	-3826	120	T	-p	0.6173	1.0287	40N	177W	52	122	02m13s			
1691-Feb-28	04:37:41	8	6	-3820	125	A	nn	0.1701	0.9414	1N	109E	80	220	06m40s			
1691-Aug-23	16:45:56	8	6	-3814	130	T	n-	-0.1317	1.0720	5N	74W	82	236	06m01s			

1692-Feb-17	04:26:55	8	6	-3808	135	A	p-	0.8765	0.9159	42N	86E	28	644	08m36s
1692-Aug-12	09:41:05	8	6	-3802	140	T	p-	-0.8649	1.0546	40S	9E	30	353	04m10s
1693-Jan-06	13:55:33	8	6	-3797	107	P	-t	-1.3788	0.3097	64S	122E	0		
1693-Feb-05	05:27:09	8	6	-3796	145	P	t-	1.5276	0.0597	62N	44E	0		
1693-Jul-03	12:33:51	8	6	-3791	112	P	-t	1.0058	0.9718	65N	146E	0		
1693-Dec-27	01:10:50	8	6	-3785	117	T	-p	-0.6387	1.0236	63S	174E	50	105	01m39s
1694-Jun-22	16:08:45	8	6	-3779	122	A	np	0.2556	0.9517	38N	60W	75	183	05m27s
1694-Dec-16	16:33:11	8	6	-3773	127	T	nn	0.0388	1.0475	21S	69W	88	158	04m22s
1695-Jun-11	16:44:23	8	6	-3767	132	A	p-	-0.5077	0.9545	7S	72W	59	193	06m13s
1695-Dec-06	07:23:18	8	6	-3761	137	T	p-	0.7280	1.0128	24N	68E	43	64	01m16s
1696-May-01	11:15:19	8	6	-3756	104	P	-t	1.4286	0.2079	70N	130W	0		
1696-May-30	21:41:22	8	6	-3755	142	P	t-	-1.2406	0.5534	68S	139W	0		
1696-Oct-26	01:17:06	8	5	-3750	109	P	-t	-1.4361	0.2173	71S	26E	0		
1696-Nov-24	17:10:40	8	5	-3749	147	P	t-	1.4822	0.1318	68N	66W	0		
1697-Apr-21	01:49:21	8	5	-3744	114	T	-p	0.6559	1.0602	51N	137E	49	262	04m18s
1697-Oct-15	01:33:41	8	5	-3738	119	A	-p	-0.7603	0.9236	55S	131E	40	441	07m12s
1698-Apr-10	18:34:25	8	5	-3732	124	Tm	nn	-0.0600	1.0613	5N	97W	87	201	05m36s
1698-Oct-04	02:31:24	8	5	-3726	129	A	nn	-0.0305	0.9573	6S	139E	88	155	05m10s
1699-Mar-31	08:48:44	8	5	-3720	134	H	p-	-0.8089	1.0065	47S	70E	36	38	00m32s
1699-Sep-23	10:16:12	8	5	-3714	139	H	p-	0.6999	1.0095	42N	41E	45	46	00m49s
1700-Feb-18	23:49:34	8	5	-3709	106	P	-t	1.3450	0.3744	71N	132E	0		
1700-Aug-14	16:59:05	8	5	-3703	111	P	-t	-1.1668	0.7001	71S	118W	0		
1700-Sep-13	00:34:18	8	5	-3702	149	P	t-	1.3749	0.2996	72N	88W	0		

## 18TH CENTURY CE

In the 18th century CE the total number of solar eclipses was 251 solar eclipses: 92 partial solar eclipses, 78 annular solar eclipses (78 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 0 non-central annular

**solar eclipses with one limit), 62 total solar eclipses (62 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 19 hybrid solar eclipses.**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST										°	km
			ECLIPSE											
1701-Feb-07	23:04:53	8	5	-3697	116	A	-p	0.6662	0.9219	26N	172W	48	393	09m55s
1701-Aug-04	09:31:44	8	5	-3691	121	T	-p	-0.4558	1.0521	9S	34E	63	193	05m06s
1702-Jan-28	01:37:09	8	5	-3685	126	A	nn	-0.0485	0.9636	21S	160E	87	132	04m14s
1702-Jul-24	21:38:51	8	5	-3679	131	H	n-	0.3160	1.0002	38N	140W	71	1	00m01s
1703-Jan-17	11:24:25	8	5	-3673	136	H2	p-	-0.7345	1.0120	68S	22E	42	61	00m50s
1703-Jul-14	02:36:33	8	5	-3667	141	P	t-	1.1207	0.7580	68N	46W	0		
1703-Dec-08	15:41:29	8	5	-3662	108	P	-t	1.3086	0.4282	65N	29W	0		
1704-Jan-07	02:14:50	8	5	-3661	146	P	t-	-1.3669	0.3177	67S	36W	0		
1704-Jun-02	13:02:36	8	5	-3656	113	A	-t	-0.9561	0.9542	49S	3E	16	578	04m26s
1704-Nov-27	05:33:52	8	5	-3650	118	A	-p	0.6716	0.9999	20N	105E	48	1	00m01s
1705-May-22	19:55:05	9	5	-3644	123	Hm	nn	-0.1525	1.0147	12N	117W	81	51	01m32s
1705-Nov-16	13:23:05	9	5	-3638	128	A	nn	-0.0271	0.9514	20S	25W	88	178	05m31s
1706-May-12	09:35:08	9	5	-3632	133	T	p-	0.5984	1.0591	52N	15E	53	242	04m06s
1706-Nov-05	14:23:56	9	5	-3626	138	A	p-	-0.7407	0.9196	57S	73W	42	449	07m02s
1707-Apr-02	18:12:24	9	5	-3621	105	P	-t	-1.2661	0.5083	61S	11W	0		
1707-May-02	02:28:16	9	5	-3620	143	P	t-	1.3047	0.4339	62N	21E	0		
1707-Sep-25	23:05:05	9	5	-3615	110	P	-t	1.4641	0.1604	61N	80W	0		
1707-Oct-25	14:17:22	9	5	-3614	148	P	t-	-1.4161	0.2528	62S	151W	0		
1708-Mar-22	06:51:36	9	5	-3609	115	A	-p	-0.5878	0.9913	30S	98E	54	37	00m46s
1708-Sep-14	09:00:22	9	5	-3603	120	T	-p	0.6685	1.0281	39N	68E	48	126	02m10s
1709-Mar-11	12:18:34	9	5	-3597	125	Am	nn	0.1395	0.9422	3N	6W	82	216	06m29s
1709-Sep-04	00:32:26	9	5	-3591	130	T	nn	-0.0725	1.0703	4N	170E	86	229	05m47s
1710-Feb-28	12:07:28	9	5	-3585	135	A	p-	0.8509	0.9194	43N	31W	31	562	08m00s
1710-Aug-24	17:17:15	9	5	-3579	140	T	p-	-0.8031	1.0519	36S	105W	36	282	04m00s

1711-Jan-18	22:23:37	9	5	-3574	107	P	-t	-1.3796	0.3076	64S	14W	0		
1711-Feb-17	13:30:14	9	5	-3573	145	P	t-	1.5077	0.0919	62N	85W	0		
1711-Jul-15	19:22:11	9	5	-3568	112	P	-t	1.0894	0.8217	64N	35E	0		
1712-Jan-08	09:58:39	9	5	-3562	117	T	-p	-0.6406	1.0258	61S	49E	50	114	01m48s
1712-Jul-03	22:34:57	9	4	-3556	122	A	-p	0.3433	0.9503	43N	153W	70	194	05m18s
1712-Dec-28	01:24:54	9	4	-3550	127	T	nn	0.0347	1.0466	21S	159E	88	155	04m15s
1713-Jun-22	23:15:38	9	4	-3544	132	A	p-	-0.4217	0.9576	1S	171W	65	170	05m45s
1713-Dec-17	16:04:20	9	4	-3538	137	H	p-	0.7249	1.0094	23N	65W	43	47	00m56s
1714-May-13	18:39:34	9	4	-3533	104	Pe	-t	1.4855	0.1008	69N	107E	0		
1714-Jun-12	04:40:01	9	4	-3532	142	P	t-	-1.1610	0.6976	67S	106E	0		
1714-Nov-07	09:04:34	9	4	-3527	109	P	-t	-1.4630	0.1731	70S	104W	0		
1714-Dec-07	01:27:09	9	4	-3526	147	P	t-	1.4772	0.1420	67N	159E	0		
1715-May-03	09:36:29	9	4	-3521	114	T	-p	0.7112	1.0632	59N	18E	44	295	04m14s
1715-Oct-27	09:02:48	9	4	-3515	119	A	-p	-0.7939	0.9206	62S	16E	37	494	07m02s
1716-Apr-22	02:28:32	9	4	-3509	124	T	nn	-0.0091	1.0625	12N	143E	90	205	05m43s
1716-Oct-15	10:07:38	10	4	-3503	129	A	nn	-0.0687	0.9570	13S	23E	86	157	05m10s
1717-Apr-11	16:34:40	10	4	-3497	134	H	p-	-0.7660	1.0072	40S	52W	40	39	00m39s
1717-Oct-04	18:08:27	10	4	-3491	139	H	p-	0.6563	1.0104	35N	81W	49	47	00m56s
1718-Mar-02	07:31:36	10	4	-3486	106	P	-t	1.3723	0.3285	72N	3E	0		
1718-Aug-26	00:41:45	10	4	-3480	111	P	-t	-1.2267	0.5838	71S	114E	0		
1718-Sep-24	08:34:19	10	4	-3479	149	P	t-	1.3283	0.3888	72N	138E	0		
1719-Feb-19	06:52:57	10	4	-3474	116	A	-p	0.6855	0.9250	31N	69E	47	384	09m01s
1719-Aug-15	16:59:51	10	4	-3468	121	T	-p	-0.5243	1.0466	17S	81W	58	181	04m27s
1720-Feb-08	09:52:30	10	4	-3462	126	A	nn	-0.0375	0.9681	17S	36E	88	115	03m40s
1720-Aug-04	04:38:14	10	4	-3456	131	A	nn	0.2410	0.9957	31N	115E	76	16	00m27s
1721-Jan-27	20:05:11	10	4	-3450	136	T	p-	-0.7269	1.0158	64S	102W	43	79	01m07s
1721-Jul-24	09:06:55	10	4	-3444	141	P	t-	1.0383	0.8990	69N	155W	0		
1721-Dec-19	00:31:50	10	4	-3439	108	P	-t	1.3144	0.4172	66N	172W	0		
1722-Jan-17	11:07:09	10	4	-3438	146	P	t-	-1.3629	0.3251	68S	180W	0		
1722-Jun-13	19:40:18	10	4	-3433	113	P	-t	-1.0364	0.9084	65S	94W	0		
1722-Dec-08	14:07:34	10	4	-3427	118	A	-p	0.6808	0.9955	20N	25W	47	21	00m28s
1723-Jun-03	03:05:13	10	4	-3421	123	T	nn	-0.2251	1.0196	10N	136E	77	69	02m05s



1723-Nov-27	21:28:15	10	4	-3415	128	A	nn	-0.0125	0.9471	22S	145W	89	195	06m12s
1724-May-22	17:10:08	10	4	-3409	133	T	p-	0.5319	1.0640	51N	93W	58	247	04m33s
1724-Nov-15	22:07:37	10	4	-3403	138	A	p-	-0.7183	0.9174	60S	175E	44	448	07m15s
1725-Apr-13	02:11:22	10	4	-3398	105	P	-t	-1.3132	0.4193	61S	140W	0		
1725-May-12	10:12:19	10	4	-3397	143	P	t-	1.2472	0.5447	63N	104W	0		
1725-Oct-06	06:39:42	10	4	-3392	110	P	-t	1.5028	0.0924	61N	158E	0		
1725-Nov-04	22:02:51	10	4	-3391	148	P	t-	-1.3861	0.3038	62S	83E	0		
1726-Apr-02	14:38:16	10	4	-3386	115	A	-p	-0.6312	0.9906	29S	18W	51	42	00m52s
1726-Sep-25	16:51:44	10	4	-3380	120	T	-p	0.7133	1.0273	38N	49W	44	129	02m07s
1727-Mar-22	19:47:55	10	4	-3374	125	A	nn	0.0996	0.9432	6N	118W	84	211	06m20s
1727-Sep-15	08:27:30	10	4	-3368	130	T	nn	-0.0202	1.0681	2N	51E	89	222	05m33s
1728-Mar-10	19:38:55	10	4	-3362	135	A	p-	0.8172	0.9233	43N	145W	35	485	07m25s
1728-Sep-04	00:59:22	10	4	-3356	140	T	p-	-0.7466	1.0484	35S	140E	41	236	03m44s
1729-Jan-29	06:48:43	10	4	-3351	107	P	-t	-1.3838	0.2994	63S	150W	0		
1729-Feb-27	21:27:02	10	4	-3350	145	P	t-	1.4817	0.1347	61N	147E	0		
1729-Jul-26	02:10:39	10	4	-3345	112	P	-t	1.1717	0.6747	63N	77W	0		
1729-Aug-24	13:48:31	10	4	-3344	150	Pb	t-	-1.5430	0.0067	62S	95W	0		
1730-Jan-18	18:45:15	10	4	-3339	117	T	-p	-0.6439	1.0286	58S	77W	50	126	01m59s
1730-Jul-15	04:59:08	10	4	-3333	122	A	-p	0.4325	0.9484	46N	116E	64	210	05m13s
1731-Jan-08	10:17:44	10	4	-3327	127	Tm	nn	0.0313	1.0464	21S	27E	88	155	04m10s
1731-Jul-04	05:46:25	11	4	-3321	132	A	p-	-0.3341	0.9602	4N	91E	71	153	05m15s
1731-Dec-29	00:46:52	11	4	-3315	137	H	p-	0.7234	1.0065	23N	162E	44	32	00m39s
1732-Jun-22	11:38:47	11	4	-3309	142	P	t-	-1.0800	0.8457	66S	9W	0		
1732-Nov-17	16:58:50	11	4	-3304	109	P	-t	-1.4841	0.1390	69S	125E	0		
1732-Dec-17	09:46:56	11	4	-3303	147	P	t-	1.4752	0.1470	66N	23E	0		
1733-May-13	17:18:28	11	4	-3298	114	T	-p	0.7712	1.0656	68N	99W	39	339	04m06s
1733-Nov-06	16:40:14	11	4	-3292	119	A	-p	-0.8208	0.9179	69S	101W	34	548	06m53s
1734-May-03	10:15:56	11	4	-3286	124	T	nn	0.0472	1.0635	18N	25E	87	208	05m46s
1734-Oct-26	17:53:27	11	4	-3280	129	A	nn	-0.0996	0.9567	18S	94W	84	159	05m08s
1735-Apr-23	00:11:35	11	4	-3274	134	H	p-	-0.7164	1.0077	32S	171W	44	38	00m44s
1735-Oct-16	02:10:33	11	4	-3268	139	H	p-	0.6202	1.0110	28N	155E	51	48	01m02s
1736-Mar-12	15:05:55	11	4	-3263	106	P	-t	1.4049	0.2733	72N	124W	0		
1736-Apr-11	07:18:06	11	4	-3262	144	Pb	t-	-1.5166	0.0748	72S	134E	0		

1736-Sep-05	08:30:25	11	4	-3257	111	P	-t	-1.2817	0.4776	72S	17W	0		
1736-Oct-04	16:41:33	11	4	-3256	149	P	t-	1.2874	0.4670	72N	2E	0		
1737-Mar-01	14:35:17	11	4	-3251	116	A	-p	0.7098	0.9283	36N	50W	45	378	08m04s
1737-Aug-26	00:32:08	11	3	-3245	121	T	-p	-0.5885	1.0407	24S	163E	54	167	03m44s
1738-Feb-18	18:02:31	11	3	-3239	126	A	nn	-0.0211	0.9732	13S	87W	89	96	03m03s
1738-Aug-15	11:40:12	11	3	-3233	131	A	nn	0.1688	0.9907	24N	8E	80	33	01m00s
1739-Feb-08	04:41:13	11	3	-3227	136	T	p-	-0.7150	1.0203	59S	131E	44	99	01m27s
1739-Aug-04	15:40:56	11	3	-3221	141	A	t-	0.9588	0.9408	80N	43E	16	801	03m59s
1739-Dec-30	09:22:03	11	3	-3216	108	P	-t	1.3203	0.4062	67N	45E	0		
1740-Jan-28	19:54:59	11	3	-3215	146	P	t-	-1.3556	0.3387	69S	36E	0		
1740-Jun-24	02:18:53	11	3	-3210	113	P	-t	-1.1163	0.7697	66S	157E	0		
1740-Dec-18	22:43:17	11	3	-3204	118	A	-p	0.6876	0.9917	20N	156W	46	40	00m53s
1741-Jun-13	10:12:47	12	3	-3198	123	T	-n	-0.3007	1.0239	6N	29E	73	85	02m35s
1741-Dec-08	05:37:59	12	3	-3192	128	A	nn	-0.0024	0.9434	23S	94E	90	209	06m51s
1742-Jun-03	00:39:56	12	3	-3186	133	T	p-	0.4607	1.0683	49N	160E	62	251	05m00s
1742-Nov-27	05:58:59	12	3	-3180	138	A	p-	-0.7019	0.9156	63S	62E	45	450	07m26s
1743-Apr-24	10:00:09	12	3	-3175	105	P	-t	-1.3682	0.3153	62S	94E	0		
1743-May-23	17:48:55	12	3	-3174	143	P	t-	1.1838	0.6671	64N	133E	0		
1743-Oct-17	14:25:41	12	3	-3169	110	Pe	-t	1.5334	0.0388	61N	32E	0		
1743-Nov-16	05:58:24	12	3	-3168	148	P	t-	-1.3634	0.3424	63S	44W	0		
1744-Apr-12	22:15:24	12	3	-3163	115	A	-p	-0.6819	0.9895	29S	133W	47	49	00m59s
1744-Oct-06	00:51:23	12	3	-3157	120	T	-p	0.7521	1.0263	37N	169W	41	132	02m04s
1745-Apr-02	03:09:18	12	3	-3151	125	A	nn	0.0536	0.9444	8N	132E	87	205	06m13s
1745-Sep-25	16:28:55	12	3	-3145	130	Tm	nn	0.0269	1.0655	0N	69W	88	214	05m21s
1746-Mar-22	03:02:48	12	3	-3139	135	A	p-	0.7771	0.9277	43N	105E	39	419	06m51s
1746-Sep-15	08:46:36	12	3	-3133	140	T	p-	-0.6948	1.0441	35S	23E	46	201	03m23s
1747-Feb-09	15:11:17	12	3	-3128	107	P	-t	-1.3908	0.2861	62S	75E	0		
1747-Mar-11	05:18:08	12	3	-3127	145	P	t-	1.4504	0.1872	61N	20E	0		
1747-Aug-06	09:01:21	12	3	-3122	112	P	-t	1.2512	0.5340	62N	171E	0		
1747-Sep-04	21:07:56	12	3	-3121	150	P	t-	-1.4881	0.1086	61S	146E	0		
1748-Jan-30	03:29:13	12	3	-3116	117	T	-p	-0.6501	1.0317	54S	155E	49	140	02m12s
1748-Jul-25	11:27:02	12	3	-3110	122	A	-p	0.5183	0.9461	49N	25E	59	231	05m12s
1749-Jan-18	19:08:56	13	3	-3104	127	T	nn	0.0265	1.0465	19S	105W	89	155	04m07s

1749-Jul-14	12:19:20	13	3	-3098	132	A	pn	-0.2476	0.9623	8N	7W	76	141	04m46s
1750-Jan-08	09:28:42	13	3	-3092	137	H	p-	0.7217	1.0041	23N	29E	44	20	00m24s
1750-Jul-03	18:38:51	13	3	-3086	142	P	t-	-0.9985	0.9956	65S	124W	0		
1750-Nov-29	00:58:14	13	3	-3081	109	P	-t	-1.5004	0.1130	68S	6W	0		
1750-Dec-28	18:06:51	13	3	-3080	147	P	t-	1.4737	0.1506	65N	112W	0		
1751-May-25	00:55:15	13	3	-3075	114	T	-p	0.8359	1.0670	77N	145E	33	402	03m53s
1751-Nov-18	00:26:00	13	3	-3069	119	A	-p	-0.8411	0.9159	75S	143E	32	597	06m45s
1752-May-13	17:56:28	13	3	-3063	124	T	nn	0.1090	1.0637	25N	91W	84	210	05m42s
1752-Nov-06	01:48:14	13	3	-3057	129	A	nn	-0.1239	0.9567	23S	147E	83	159	05m03s
1753-May-03	07:39:39	13	3	-3051	134	H	p-	-0.6601	1.0079	25S	73E	49	36	00m48s
1753-Oct-26	10:22:00	13	3	-3045	139	H	p-	0.5911	1.0115	23N	30E	54	49	01m08s
1754-Mar-23	22:28:58	13	3	-3040	106	P	-t	1.4463	0.2032	72N	111E	0		
1754-Apr-22	14:25:56	13	3	-3039	144	P	t-	-1.4631	0.1669	71S	14E	0		
1754-Sep-16	16:25:41	13	3	-3034	111	P	-t	-1.3314	0.3822	72S	150W	0		
1754-Oct-16	00:57:45	13	3	-3033	149	P	t-	1.2535	0.5314	71N	136W	0		
1755-Mar-12	22:09:32	14	3	-3028	116	A	-p	0.7413	0.9319	42N	167W	42	375	07m07s
1755-Sep-06	08:09:45	14	3	-3022	121	T	-p	-0.6478	1.0342	32S	44E	49	150	03m00s
1756-Mar-01	02:07:09	14	3	-3016	126	A	nn	0.0006	0.9787	7S	151E	90	76	02m24s
1756-Aug-25	18:46:17	14	3	-3010	131	Am	nn	0.1009	0.9853	16N	100W	84	52	01m38s
1757-Feb-18	13:14:12	14	3	-3004	136	T	p-	-0.6999	1.0251	54S	3E	45	119	01m51s
1757-Aug-14	22:16:45	14	3	-2998	141	A	p-	0.8807	0.9407	72N	113W	28	467	04m36s
1758-Jan-09	18:13:42	14	3	-2993	108	P	-t	1.3251	0.3972	68N	99W	0		
1758-Feb-08	04:40:51	14	3	-2992	146	P	t-	-1.3468	0.3549	70S	108W	0		
1758-Jul-05	08:57:44	14	3	-2987	113	P	-t	-1.1961	0.6303	67S	46E	0		
1758-Dec-30	07:20:12	14	3	-2981	118	A	-p	0.6929	0.9885	21N	72E	46	56	01m15s
1759-Jun-24	17:20:59	14	3	-2975	123	T	-n	-0.3768	1.0275	1N	78W	68	101	02m59s
1759-Dec-19	13:50:05	14	3	-2969	128	A	nn	0.0051	0.9404	23S	28W	90	221	07m25s
1760-Jun-13	08:09:15	14	3	-2963	133	T	p-	0.3883	1.0719	46N	53E	67	254	05m27s
1760-Dec-07	13:53:44	14	3	-2957	138	A	p-	-0.6882	0.9144	65S	49W	46	451	07m36s
1761-May-04	17:43:11	14	3	-2952	105	P	-t	-1.4274	0.2032	62S	30W	0		
1761-Jun-03	01:22:37	14	3	-2951	143	P	t-	1.1182	0.7939	64N	10E	0		
1761-Nov-26	14:00:27	15	3	-2945	148	P	t-	-1.3451	0.3732	64S	174W	0		
1762-Apr-24	05:42:10	15	3	-2940	115	A	-p	-0.7402	0.9881	30S	116E	42	61	01m08s

1762-Oct-17	09:00:34	15	2	-2934	120	T	-p	0.7836	1.0253	36N	68E	38	135	02m02s
1763-Apr-13	10:19:31	15	2	-2928	125	A	nn	-0.0010	0.9455	9N	25E	90	201	06m11s
1763-Oct-07	00:39:04	15	2	-2922	130	T	nn	0.0666	1.0627	2S	169E	86	206	05m09s
1764-Apr-01	10:17:14	15	2	-2916	135	A	p-	0.7289	0.9323	44N	3W	43	361	06m20s
1764-Sep-25	16:41:43	15	2	-2910	140	T	p-	-0.6502	1.0394	36S	95W	49	171	03m01s
1765-Feb-19	23:28:38	15	2	-2905	107	P	-t	-1.4028	0.2635	62S	58W	0		
1765-Mar-21	13:01:44	15	2	-2904	145	P	t-	1.4120	0.2525	61N	104W	0		
1765-Aug-16	15:54:01	15	2	-2899	112	P	-t	1.3278	0.3995	62N	59E	0		
1765-Sep-15	04:32:34	15	2	-2898	150	P	t-	-1.4378	0.2009	61S	26E	0		
1766-Feb-09	12:09:44	15	2	-2893	117	T	-p	-0.6597	1.0352	51S	27E	48	156	02m27s
1766-Aug-05	17:56:57	15	2	-2887	122	A	-p	0.6023	0.9433	50N	67W	53	260	05m15s
1767-Jan-30	03:56:55	15	2	-2881	127	T	nn	0.0190	1.0471	17S	124E	89	157	04m06s
1767-Jul-25	18:55:47	15	2	-2875	132	A	nn	-0.1630	0.9638	11N	105W	81	132	04m21s
1768-Jan-19	18:09:29	15	2	-2869	137	H	p-	0.7195	1.0022	24N	103W	44	11	00m13s
1768-Jul-14	01:40:57	16	2	-2863	142	H	t-	-0.9176	1.0055	43S	137E	23	48	00m29s
1768-Dec-09	09:01:38	16	2	-2858	109	P	-t	-1.5129	0.0933	67S	138W	0		
1769-Jan-08	02:26:41	16	2	-2857	147	P	t-	1.4728	0.1531	64N	113E	0		
1769-Jun-04	08:28:34	16	2	-2852	114	T	-t	0.9037	1.0671	87N	26E	25	521	03m36s
1769-Nov-28	08:18:39	16	2	-2846	119	A	-p	-0.8559	0.9144	80S	32E	31	638	06m38s
1770-May-25	01:30:11	16	2	-2840	124	T	-n	0.1760	1.0634	31N	156E	80	211	05m31s
1770-Nov-17	09:51:53	16	2	-2834	129	A	nn	-0.1416	0.9571	27S	27E	82	158	04m56s
1771-May-14	15:00:02	16	2	-2828	134	H	p-	-0.5981	1.0076	18S	40W	53	33	00m49s
1771-Nov-06	18:41:02	16	2	-2822	139	H	p-	0.5676	1.0120	18N	97W	55	50	01m13s
1772-Apr-03	05:43:52	16	2	-2817	106	P	-t	1.4935	0.1229	72N	12W	0		
1772-May-02	21:26:41	16	2	-2816	144	P	t-	-1.4044	0.2683	70S	104W	0		
1772-Sep-27	00:28:19	16	2	-2811	111	P	-t	-1.3751	0.2988	72S	75E	0		
1772-Oct-26	09:21:17	16	2	-2810	149	P	t-	1.2255	0.5846	71N	85E	0		
1773-Mar-23	05:36:57	16	2	-2805	116	A	-p	0.7785	0.9357	49N	76E	39	378	06m13s
1773-Sep-16	15:52:23	16	2	-2799	121	T	-p	-0.7020	1.0275	40S	76W	45	130	02m18s
1774-Mar-12	10:05:14	16	2	-2793	126	A	nn	0.0284	0.9845	2S	31E	88	55	01m43s
1774-Sep-06	01:57:40	16	2	-2787	131	A	nn	0.0385	0.9797	9N	151E	88	72	02m20s
1775-Mar-01	21:39:20	16	2	-2781	136	T	p-	-0.6783	1.0304	48S	125W	47	139	02m20s
1775-Aug-26	04:59:40	16	2	-2775	141	A	p-	0.8088	0.9391	61N	132E	36	383	05m16s

1776-Jan-21	03:02:27	16	2	-2770	108	P	-t	1.3318	0.3848	69N	118E	0		
1776-Feb-19	13:20:10	16	2	-2769	146	P	t-	-1.3334	0.3800	71S	109E	0		
1776-Jul-15	15:39:29	16	2	-2764	113	P	-t	-1.2739	0.4935	68S	65W	0		
1776-Aug-14	05:22:56	16	2	-2763	151	Pb	t-	1.5357	0.0435	71N	124W	0		
1777-Jan-09	15:55:35	16	2	-2758	118	A	-p	0.6987	0.9859	22N	59W	46	70	01m32s
1777-Jul-05	00:29:29	16	2	-2752	123	T	-p	-0.4531	1.0305	4S	174E	63	115	03m17s
1777-Dec-29	22:03:28	17	2	-2746	128	A	nn	0.0109	0.9380	23S	150W	90	231	07m53s
1778-Jun-24	15:34:55	17	2	-2740	133	T	n-	0.3127	1.0746	42N	55W	72	255	05m52s
1778-Dec-18	21:53:53	17	2	-2734	138	A	p-	-0.6788	0.9137	66S	161W	47	450	07m44s
1779-May-16	01:17:39	17	2	-2729	105	Pe	-t	-1.4928	0.0796	63S	153W	0		
1779-Jun-14	08:51:28	17	2	-2728	143	P	t-	1.0489	0.9275	65N	112W	0		
1779-Dec-07	22:08:56	17	2	-2722	148	P	t-	-1.3315	0.3962	65S	54E	0		
1780-May-04	13:00:41	17	2	-2717	115	A	-p	-0.8043	0.9861	33S	6E	36	81	01m21s
1780-Oct-27	17:18:27	17	2	-2711	120	T	-p	0.8083	1.0244	36N	59W	36	138	02m00s
1781-Apr-23	17:21:25	17	2	-2705	125	A	nn	-0.0620	0.9467	10N	79W	87	197	06m13s
1781-Oct-17	08:55:58	17	2	-2699	130	T	-n	0.1007	1.0596	4S	45E	84	197	04m59s
1782-Apr-12	17:24:47	17	2	-2693	135	A	p-	0.6745	0.9370	45N	107W	47	311	05m51s
1782-Oct-07	00:43:19	17	2	-2687	140	T	p-	-0.6113	1.0344	38S	145E	52	144	02m37s
1783-Mar-03	07:40:30	17	2	-2682	107	P	-t	-1.4200	0.2313	61S	171E	0		
1783-Apr-01	20:38:38	17	2	-2681	145	P	t-	1.3671	0.3300	61N	133E	0		
1783-Aug-27	22:52:05	17	2	-2676	112	P	-t	1.3991	0.2758	61N	54W	0		
1783-Sep-26	12:04:17	17	2	-2675	150	P	t-	-1.3935	0.2814	61S	95W	0		
1784-Feb-20	20:45:38	17	2	-2670	117	T	-p	-0.6739	1.0389	47S	102W	47	174	02m44s
1784-Aug-16	00:31:53	17	2	-2664	122	A	-p	0.6819	0.9402	51N	160W	47	299	05m23s
1785-Feb-09	12:40:41	17	2	-2658	127	T	nn	0.0080	1.0480	14S	7W	90	159	04m07s
1785-Aug-05	01:37:22	17	2	-2652	132	A	nn	-0.0817	0.9650	13N	155E	85	127	04m01s
1786-Jan-30	02:45:26	17	2	-2646	137	H	p-	0.7141	1.0009	25N	125E	44	5	00m05s
1786-Jul-25	08:46:33	17	2	-2640	142	T	t-	-0.8384	1.0106	35S	31E	33	66	00m59s
1786-Dec-20	17:07:24	16	2	-2635	109	P	-t	-1.5232	0.0773	66S	90E	0		
1787-Jan-19	10:43:13	16	2	-2634	147	P	t-	1.4697	0.1591	63N	20W	0		
1787-Jun-15	15:59:25	16	2	-2629	114	T	-t	0.9738	1.0648	79N	105E	12	997	03m09s
1787-Dec-09	16:15:38	16	1	-2623	119	A	-p	-0.8674	0.9136	83S	63W	29	672	06m32s
1788-Jun-04	08:59:30	16	1	-2617	124	T	-n	0.2465	1.0623	37N	44E	76	211	05m15s

1788-Nov-27	18:02:53	16	1	-2611	129	A	nn	-0.1542	0.9579	30S	94W	81	155	04m46s
1789-May-24	22:11:58	16	1	-2605	134	H	p-	-0.5297	1.0068	11S	151W	58	28	00m46s
1789-Nov-17	03:08:34	16	1	-2599	139	H	p-	0.5505	1.0126	14N	134E	57	52	01m19s
1790-Apr-14	12:48:14	16	1	-2594	106	Pe	-t	1.5487	0.0287	71N	132W	0		
1790-May-14	04:17:21	16	1	-2593	144	P	t-	-1.3374	0.3840	69S	141E	0		
1790-Oct-08	08:38:51	16	1	-2588	111	P	-t	-1.4122	0.2287	72S	61W	0		
1790-Nov-06	17:53:11	16	1	-2587	149	P	t-	1.2044	0.6245	70N	56W	0		
1791-Apr-03	12:55:13	16	1	-2582	116	A	-p	0.8236	0.9394	57N	40W	34	394	05m21s
1791-Sep-27	23:42:29	16	1	-2576	121	T	-p	-0.7492	1.0206	48S	162E	41	106	01m38s
1792-Mar-22	17:57:34	16	1	-2570	126	A	nn	0.0618	0.9906	5N	89W	86	33	01m02s
1792-Sep-16	09:13:51	16	1	-2564	131	A	nn	-0.0191	0.9739	1N	40E	89	93	03m02s
1793-Mar-12	06:00:07	16	1	-2558	136	T	p-	-0.6524	1.0359	42S	108E	49	158	02m51s
1793-Sep-05	11:47:24	15	1	-2552	141	A	p-	0.7408	0.9370	52N	23E	42	346	06m02s
1794-Jan-31	11:48:45	15	1	-2547	108	P	-t	1.3407	0.3681	70N	26W	0		
1794-Mar-01	21:53:59	15	1	-2546	146	P	t-	-1.3155	0.4136	72S	33W	0		
1794-Jul-26	22:24:27	15	1	-2541	113	P	-t	-1.3496	0.3599	69S	178W	0		
1794-Aug-25	12:08:56	15	1	-2540	151	P	t-	1.4616	0.1709	71N	122E	0		
1795-Jan-21	00:29:13	15	1	-2535	118	A	-p	0.7055	0.9837	25N	170E	45	81	01m44s
1795-Jul-16	07:41:36	15	1	-2529	123	T	-p	-0.5274	1.0327	10S	64E	58	130	03m26s
1796-Jan-10	06:14:52	15	1	-2523	128	A	nn	0.0179	0.9362	21S	88E	89	238	08m15s
1796-Jul-04	23:02:54	15	1	-2517	133	T	n-	0.2385	1.0764	37N	165W	76	255	06m15s
1796-Dec-29	05:54:58	15	1	-2511	138	A	p-	-0.6703	0.9136	66S	89E	48	446	07m51s
1797-Jun-24	16:18:13	14	1	-2505	143	T	t-	0.9780	1.0570	77N	134E	11	975	02m47s
1797-Dec-18	06:21:51	14	1	-2499	148	P	t-	-1.3208	0.4142	66S	79W	0		
1798-May-15	20:10:32	14	1	-2494	115	A	-t	-0.8744	0.9832	39S	102W	29	121	01m36s
1798-Nov-08	01:44:38	14	1	-2488	120	T	-p	0.8270	1.0237	35N	173E	34	141	01m59s
1799-May-05	00:13:07	14	1	-2482	125	A	nn	-0.1310	0.9476	9N	179E	83	194	06m20s
1799-Oct-28	17:21:46	13	1	-2476	130	T	-n	0.1274	1.0566	7S	81W	83	188	04m50s
1800-Apr-24	00:23:59	13	1	-2470	135	A	p-	0.6125	0.9417	46N	151E	52	269	05m27s
1800-Oct-18	08:51:52	13	1	-2464	140	T	p-	-0.5788	1.0293	40S	23E	54	120	02m14s

## 19TH CENTURY CE

**In the 19th century CE the total number of solar eclipses was 242 solar eclipses: 87 partial solar eclipses, 77 annular solar eclipses (75 central annular solar eclipses with two limits, 2 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 63 total solar eclipses (63 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 15 hybrid solar eclipses.**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
1801-Mar-14	15:45:34	13	1	-2459	107	P	-t	-1.4434	0.1874	61S	41E	0		
1801-Apr-13	04:08:06	13	1	-2458	145	P	t-	1.3152	0.4208	61N	12E	0		
1801-Sep-08	05:54:39	13	1	-2453	112	P	-t	1.4657	0.1615	61N	168W	0		
1801-Oct-07	19:42:34	13	1	-2452	150	P	t-	-1.3552	0.3505	61S	141E	0		
1802-Mar-04	05:14:29	13	1	-2447	117	T	-p	-0.6942	1.0428	44S	132E	46	196	03m02s
1802-Aug-28	07:12:00	13	1	-2441	122	A	-p	0.7569	0.9367	51N	106E	41	354	05m35s
1803-Feb-21	21:18:46	12	1	-2435	127	T	nn	-0.0075	1.0492	11S	136W	90	163	04m09s
1803-Aug-17	08:25:03	12	1	-2429	132	A	nn	-0.0048	0.9657	14N	55E	90	124	03m47s
1804-Feb-11	11:16:32	12	1	-2423	137	H	p-	0.7053	1.0001	27N	4W	45	0	00m00s
1804-Aug-05	15:57:13	12	1	-2417	142	T	p-	-0.7622	1.0144	29S	77W	40	75	01m20s
1805-Jan-01	01:14:56	12	1	-2412	109	P	-t	-1.5315	0.0642	65S	42W	0		
1805-Jan-30	18:57:01	12	1	-2411	147	P	t-	1.4651	0.1675	63N	153W	0		
1805-Jun-26	23:27:40	12	1	-2406	114	P	-t	1.0462	0.9358	65N	10W	0		
1805-Jul-26	06:14:18	12	1	-2405	152	Pb	t-	-1.4571	0.1405	63S	43E	0		
1805-Dec-21	00:17:37	12	1	-2400	119	A	-p	-0.8751	0.9134	83S	144W	29	692	06m26s
1806-Jun-16	16:24:26	12	1	-2394	124	T	-n	0.3203	1.0604	42N	65W	71	210	04m55s
1806-Dec-10	02:19:39	12	1	-2388	129	A	nn	-0.1627	0.9591	32S	143E	80	151	04m32s

1807-Jun-06	05:18:31	12	1	-2382	134	H	p-	-0.4577	1.0055	5S	100E	63	21	00m38s
1807-Nov-29	11:42:09	12	1	-2376	139	H	p-	0.5377	1.0135	11N	4E	57	55	01m26s
1808-May-25	11:02:35	12	1	-2370	144	P	t-	-1.2665	0.5064	68S	28E	0		
1808-Oct-19	16:55:30	12	1	-2365	111	P	-t	-1.4443	0.1688	71S	161E	0		
1808-Nov-18	02:30:03	12	1	-2364	149	P	t-	1.1874	0.6564	69N	163E	0		
1809-Apr-14	20:07:11	12	1	-2359	116	A	-p	0.8742	0.9429	66N	157W	29	435	04m35s
1809-Oct-09	07:38:41	12	1	-2353	121	T	-p	-0.7904	1.0137	55S	38E	37	77	01m02s
1810-Apr-04	01:41:19	12	1	-2347	126	A	nn	0.1031	0.9967	11N	154E	84	12	00m21s
1810-Sep-28	16:37:25	12	1	-2341	131	A	nn	-0.0696	0.9681	6S	73W	86	115	03m45s
1811-Mar-24	14:12:13	12	1	-2335	136	T	p-	-0.6190	1.0416	35S	18W	52	176	03m27s
1811-Sep-17	18:43:45	12	1	-2329	141	A	p-	0.6798	0.9345	43N	86W	47	330	06m51s
1812-Feb-12	20:28:40	12	1	-2324	108	P	-t	1.3545	0.3422	71N	169W	0		
1812-Mar-13	06:19:30	12	1	-2323	146	P	t-	-1.2913	0.4594	72S	173W	0		
1812-Aug-07	05:15:50	12	1	-2318	113	P	-t	-1.4205	0.2344	70S	67E	0		
1812-Sep-05	19:04:10	12	1	-2317	151	P	t-	1.3939	0.2874	72N	4E	0		
1813-Feb-01	08:58:26	12	1	-2312	118	A	-p	0.7151	0.9820	28N	40E	44	91	01m52s
1813-Jul-27	14:55:35	12	1	-2306	123	T	-p	-0.6006	1.0341	17S	47W	53	144	03m27s
1814-Jan-21	14:24:46	12	1	-2300	128	A	nn	0.0253	0.9350	19S	33W	89	242	08m28s
1814-Jul-17	06:30:29	12	1	-2294	133	T	n-	0.1641	1.0774	31N	85E	80	254	06m33s
1815-Jan-10	13:57:06	12	1	-2288	138	A	p-	-0.6626	0.9143	64S	24W	48	438	07m55s
1815-Jul-06	23:43:07	12	1	-2282	143	T	t-	0.9062	1.0593	88N	163W	25	470	03m13s
1815-Dec-30	14:38:39	12	1	-2276	148	P	t-	-1.3129	0.4273	67S	146E	0		
1816-May-27	03:13:24	12	1	-2271	115	A	-t	-0.9492	0.9791	48S	154E	18	238	01m54s
1816-Nov-19	10:17:22	12	1	-2265	120	T	-p	0.8407	1.0233	35N	41E	33	144	02m00s
1817-May-16	06:58:14	12	1	-2259	125	A	nn	-0.2049	0.9483	8N	79E	78	194	06m30s
1817-Nov-09	01:53:52	12	1	-2253	130	T	-n	0.1487	1.0536	9S	151E	82	179	04m42s
1818-May-05	07:15:49	12	1	-2247	135	A	p-	0.5440	0.9464	46N	52E	57	233	05m05s
1818-Oct-29	17:07:09	12	1	-2241	140	T	p-	-0.5524	1.0241	43S	99W	56	98	01m51s
1819-Mar-25	23:44:29	12	1	-2236	107	P	-t	-1.4722	0.1330	61S	88W	0		
1819-Apr-24	11:31:59	12	1	-2235	145	P	t-	1.2579	0.5225	62N	108W	0		
1819-Sep-19	13:03:47	12	1	-2230	112	Pe	-t	1.5258	0.0595	61N	76E	0		
1819-Oct-19	03:27:17	12	1	-2229	150	P	t-	-1.3227	0.4085	61S	16E	0		
1820-Mar-14	13:37:15	12	1	-2224	117	T	-p	-0.7199	1.0467	41S	6E	44	220	03m20s



1820-Sep-07	13:59:58	11	1	-2218	122	A	-p	0.8251	0.9330	52N	9E	34	432	05m49s
1821-Mar-04	05:50:13	11	1	-2212	127	T	nn	-0.0284	1.0506	8S	96E	88	168	04m14s
1821-Aug-27	15:19:42	11	1	-2206	132	A	nn	0.0671	0.9661	14N	48W	86	123	03m38s
1822-Feb-21	19:40:40	11	1	-2200	137	A	p-	0.6914	0.9996	29N	132W	46	2	00m02s
1822-Aug-16	23:14:34	11	1	-2194	142	T	p-	-0.6904	1.0173	26S	174E	46	80	01m35s
1823-Jan-12	09:20:12	11	1	-2189	109	P	-t	-1.5413	0.0484	64S	173W	0		
1823-Feb-11	03:03:02	11	1	-2188	147	P	t-	1.4546	0.1856	62N	77E	0		
1823-Jul-08	06:56:27	10	1	-2183	114	P	-t	1.1182	0.7958	65N	132W	0		
1823-Aug-06	13:45:41	10	1	-2182	152	P	t-	-1.3871	0.2753	63S	79W	0		
1824-Jan-01	08:21:09	10	1	-2177	119	A	-p	-0.8821	0.9139	80S	116E	28	705	06m21s
1824-Jun-26	23:46:33	10	1	-2171	124	T	-p	0.3960	1.0578	47N	171W	66	207	04m31s
1824-Dec-20	10:40:35	10	1	-2165	129	Am	nn	-0.1685	0.9610	33S	20E	80	144	04m15s
1825-Jun-16	12:19:03	10	1	-2159	134	H	p-	-0.3813	1.0036	1N	6W	68	13	00m25s
1825-Dec-09	20:21:45	9	1	-2153	139	H2	p-	0.5296	1.0148	9N	127W	58	60	01m34s
1826-Jun-05	17:39:04	9	1	-2147	144	P	t-	-1.1887	0.6407	67S	82W	0		
1826-Oct-31	01:20:38	9	1	-2142	111	P	-t	-1.4696	0.1222	71S	21E	0		
1826-Nov-29	11:14:08	9	1	-2141	149	P	t-	1.1764	0.6770	68N	20E	0		
1827-Apr-26	03:11:14	9	1	-2136	116	A	-p	0.9316	0.9458	75N	73E	21	559	03m53s
1827-Oct-20	15:42:05	8	1	-2130	121	H	-p	-0.8251	1.0070	62S	88W	34	43	00m30s
1828-Apr-14	09:19:38	8	1	-2124	126	Hm	nn	0.1498	1.0029	18N	38E	81	10	00m18s
1828-Oct-09	00:07:46	8	1	-2118	131	A	nn	-0.1139	0.9623	13S	173E	83	137	04m26s
1829-Apr-03	22:18:36	8	1	-2112	136	T	p-	-0.5803	1.0474	28S	143W	54	192	04m05s
1829-Sep-28	01:46:53	8	1	-2106	141	A	p-	0.6244	0.9318	35N	164E	51	323	07m43s
1830-Feb-23	05:04:13	7	1	-2101	108	P	-t	1.3716	0.3101	71N	49E	0		
1830-Mar-24	14:38:43	7	1	-2100	146	P	t-	-1.2622	0.5148	72S	48E	0		
1830-Aug-18	12:13:35	7	1	-2095	113	P	-t	-1.4866	0.1172	71S	50W	0		
1830-Sep-17	02:08:12	7	1	-2094	151	P	t-	1.3325	0.3930	72N	116W	0		
1831-Feb-12	17:21:44	7	1	-2089	118	A	-p	0.7288	0.9807	32N	88W	43	100	01m57s
1831-Aug-07	22:15:59	7	1	-2083	123	T	-p	-0.6691	1.0349	25S	161W	48	158	03m20s
1832-Feb-01	22:30:14	7	1	-2077	128	A	nn	0.0354	0.9344	15S	154W	88	245	08m35s
1832-Jul-27	14:01:06	6	1	-2071	133	T	nn	0.0919	1.0776	25N	28W	85	252	06m46s
1833-Jan-20	21:56:55	6	1	-2065	138	A	p-	-0.6530	0.9155	61S	137W	49	426	07m59s
1833-Jul-17	07:08:02	6	1	-2059	143	T	p-	0.8348	1.0591	78N	92E	33	357	03m29s

1834-Jan-09	22:55:30	6	1	-2053	148	P	t-	-1.3043	0.4418	68S	11E	0		
1834-Jun-07	10:08:38	6	1	-2048	115	P	-t	-1.0291	0.9295	65S	55E	0		
1834-Nov-30	18:56:35	6	1	-2042	120	T	-p	0.8497	1.0233	35N	92W	32	150	02m02s
1835-May-27	13:35:42	6	1	-2036	125	A	np	-0.2846	0.9486	5N	20W	74	196	06m44s
1835-Nov-20	10:31:58	6	1	-2030	130	T	-n	0.1649	1.0510	11S	22E	81	171	04m35s
1836-May-15	14:01:39	5	1	-2024	135	A	p-	0.4700	0.9509	45N	44W	62	203	04m47s
1836-Nov-09	01:29:25	5	1	-2018	140	T	p-	-0.5327	1.0191	46S	137E	58	77	01m28s
1837-Apr-05	07:35:29	5	1	-2013	107	Pe	-t	-1.5080	0.0651	61S	146E	0		
1837-May-04	18:48:28	5	1	-2012	145	P	t-	1.1934	0.6381	62N	134E	0		
1837-Oct-29	11:19:24	5	1	-2006	150	P	t-	-1.2967	0.4542	62S	110W	0		
1838-Mar-25	21:52:16	5	1	-2001	117	T	-p	-0.7524	1.0505	40S	118W	41	249	03m39s
1838-Sep-18	20:55:56	5	1	-1995	122	A	-p	0.8868	0.9289	52N	91W	27	562	06m06s
1839-Mar-15	14:13:42	5	1	-1989	127	T	nn	-0.0557	1.0520	5S	30W	87	172	04m20s
1839-Sep-07	22:23:26	5	1	-1983	132	Am	nn	0.1324	0.9661	13N	153W	82	123	03m34s
1840-Mar-04	03:58:22	5	1	-1977	137	A	p-	0.6728	0.9995	31N	102E	48	2	00m03s
1840-Aug-27	06:37:32	5	1	-1971	142	T	p-	-0.6224	1.0195	24S	63E	51	83	01m45s
1841-Jan-22	17:24:15	5	1	-1966	109	P	-t	-1.5515	0.0317	63S	57E	0		
1841-Feb-21	11:03:56	5	1	-1965	147	P	t-	1.4406	0.2096	62N	52W	0		
1841-Jul-18	14:25:14	5	1	-1960	114	P	-t	1.1903	0.6556	64N	106E	0		
1841-Aug-16	21:20:24	5	1	-1959	152	P	t-	-1.3193	0.4059	62S	158E	0		
1842-Jan-11	16:25:41	5	1	-1954	119	A	-p	-0.8882	0.9151	76S	1E	27	710	06m15s
1842-Jul-08	07:06:27	6	1	-1948	124	T	-p	0.4727	1.0543	50N	84E	62	204	04m05s
1842-Dec-31	19:04:24	6	1	-1942	129	A	nn	-0.1727	0.9634	33S	103W	80	135	03m54s
1843-Jun-27	19:17:03	6	1	-1936	134	H	nn	-0.3037	1.0011	6N	111W	72	4	00m07s
1843-Dec-21	05:03:26	6	1	-1930	139	T	p-	0.5227	1.0165	8N	101E	58	66	01m43s
1844-Jun-16	00:13:21	6	1	-1924	144	P	t-	-1.1092	0.7777	66S	168E	0		
1844-Nov-10	09:51:45	6	1	-1919	111	P	-t	-1.4901	0.0848	70S	119W	0		
1844-Dec-09	20:01:39	6	1	-1918	149	P	t-	1.1682	0.6924	67N	123W	0		
1845-May-06	10:09:00	6	1	-1913	116	An	-t	0.9945	0.9462	73N	111W	4	-	03m15s
1845-Oct-30	23:51:57	6	1	-1907	121	H	-p	-0.8537	1.0005	69S	145E	31	3	00m02s
1846-Apr-25	16:50:30	6	1	-1901	126	H	nn	0.2038	1.0088	25N	76W	78	31	00m53s
1846-Oct-20	07:46:11	6	1	-1895	131	A	nn	-0.1506	0.9567	19S	57E	81	159	05m05s
1847-Apr-15	06:16:13	6	1	-1889	136	T	p-	-0.5339	1.0530	22S	95E	58	206	04m44s

1847-Oct-09	09:00:22	7	1	-1883	141	A	p-	0.5774	0.9290	28N	53E	55	323	08m35s
1848-Mar-05	13:31:35	7	1	-1878	108	P	-t	1.3950	0.2662	72N	92W	0		
1848-Apr-03	22:49:06	7	1	-1877	146	P	t-	-1.2264	0.5834	72S	89W	0		
1848-Aug-28	19:18:22	7	1	-1872	113	Pe	-t	-1.5475	0.0091	71S	170W	0		
1848-Sep-27	09:21:19	7	1	-1871	151	P	t-	1.2774	0.4875	72N	122E	0		
1849-Feb-23	01:38:09	7	1	-1866	118	A	-p	0.7474	0.9796	37N	144E	41	108	01m58s
1849-Aug-18	05:40:49	7	1	-1860	123	T	-p	-0.7343	1.0349	33S	84E	43	172	03m07s
1850-Feb-12	06:29:37	7	1	-1854	128	A	nn	0.0503	0.9345	11S	86E	87	245	08m35s
1850-Aug-07	21:33:54	7	1	-1848	133	T	nn	0.0215	1.0769	18N	142W	89	249	06m50s
1851-Feb-01	05:54:27	7	1	-1842	138	A	p-	-0.6413	0.9175	56S	107E	50	409	08m01s
1851-Jul-28	14:33:42	7	1	-1836	143	T	p-	0.7644	1.0577	68N	20W	40	296	03m41s
1852-Jan-21	07:12:16	7	1	-1830	148	P	t-	-1.2948	0.4577	69S	124W	0		
1852-Jun-17	16:59:50	7	1	-1825	115	P	-t	-1.1111	0.7828	66S	57W	0		
1852-Dec-11	03:40:44	7	1	-1819	120	T	-p	0.8551	1.0237	35N	134E	31	156	02m05s
1853-Jun-06	20:07:21	7	1	-1813	125	A	-p	-0.3685	0.9486	2N	118W	68	203	06m59s
1853-Nov-30	19:15:39	7	1	-1807	130	T	-n	0.1763	1.0485	12S	109W	80	164	04m28s
1854-May-26	20:42:53	7	1	-1801	135	A	p-	0.3918	0.9551	43N	140W	67	178	04m32s
1854-Nov-20	09:56:58	7	1	-1795	140	H3	p-	-0.5179	1.0144	49S	13E	59	57	01m07s
1855-May-16	02:01:12	7	1	-1789	145	P	t-	1.1249	0.7624	63N	17E	0		
1855-Nov-09	19:17:51	7	0	-1783	150	P	t-	-1.2767	0.4892	62S	121E	0		
1856-Apr-05	06:01:01	7	0	-1778	117	T	-p	-0.7906	1.0539	39S	119E	38	285	03m56s
1856-Sep-29	03:59:44	7	0	-1772	122	A	-p	0.9420	0.9246	54N	169E	19	831	06m21s
1857-Mar-25	22:29:38	7	0	-1766	127	T	-n	-0.0892	1.0534	2S	153W	85	177	04m28s
1857-Sep-18	05:36:05	7	0	-1760	132	A	nn	0.1912	0.9659	12N	100E	79	125	03m34s
1858-Mar-15	12:05:28	7	0	-1754	137	A	p-	0.6461	0.9996	33N	21W	50	2	00m02s
1858-Sep-07	14:09:29	7	0	-1748	142	T	p-	-0.5609	1.0210	24S	50W	56	85	01m50s
1859-Feb-03	01:22:42	7	0	-1743	109	Pe	-t	-1.5659	0.0077	62S	72W	0		
1859-Mar-04	18:54:49	7	0	-1742	147	P	t-	1.4192	0.2461	61N	179W	0		
1859-Jul-29	21:56:57	7	0	-1737	114	P	-t	1.2598	0.5205	63N	16W	0		
1859-Aug-28	05:02:00	7	0	-1736	152	P	t-	-1.2569	0.5261	61S	34E	0		
1860-Jan-23	00:27:31	8	0	-1731	119	A	-p	-0.8969	0.9168	72S	117W	26	719	06m07s
1860-Jul-18	14:26:24	8	0	-1725	124	T	-p	0.5487	1.0500	52N	20W	56	198	03m39s
1861-Jan-11	03:29:23	8	0	-1719	129	A	nn	-0.1766	0.9664	32S	133E	80	123	03m30s

1861-Jul-08	02:10:26	8	0	-1713	134	A	nn	-0.2231	0.9979	10N	146E	77	7	00m14s
1861-Dec-31	13:49:06	8	0	-1707	139	T	p-	0.5187	1.0186	8N	32W	59	74	01m55s
1862-Jun-27	06:42:21	8	0	-1701	144	P	t-	-1.0252	0.9221	65S	61E	0		
1862-Nov-21	18:29:48	7	0	-1696	111	P	-t	-1.5052	0.0580	69S	99E	0		
1862-Dec-21	04:53:02	7	0	-1695	149	P	t-	1.1633	0.7016	66N	94E	0		
1863-May-17	17:00:45	7	0	-1690	116	P	-t	1.0627	0.8607	69N	127E	0		
1863-Nov-11	08:09:03	7	0	-1684	121	A	-p	-0.8759	0.9943	75S	15E	28	42	00m22s
1864-May-06	00:16:48	6	0	-1678	126	H	-n	0.2622	1.0146	32N	172E	75	52	01m25s
1864-Oct-30	15:30:31	6	0	-1672	131	A	nn	-0.1816	0.9514	24S	59W	79	181	05m41s
1865-Apr-25	14:08:34	6	0	-1666	136	T	p-	-0.4826	1.0584	15S	26W	61	219	05m23s
1865-Oct-19	16:21:13	5	0	-1660	141	A	p-	0.5366	0.9263	21N	60W	57	326	09m27s
1866-Mar-16	21:51:25	5	0	-1655	108	P	-t	1.4241	0.2114	72N	129E	0		
1866-Apr-15	06:51:40	5	0	-1654	146	P	t-	-1.1846	0.6637	71S	137E	0		
1866-Oct-08	16:44:22	4	0	-1648	151	P	t-	1.2296	0.5693	72N	3W	0		
1867-Mar-06	09:46:47	4	0	-1643	118	A	-p	0.7716	0.9787	42N	18E	39	118	01m57s
1867-Aug-29	13:13:07	3	0	-1637	123	T	-p	-0.7940	1.0344	41S	35W	37	189	02m51s
1868-Feb-23	14:21:31	3	0	-1631	128	A	nn	0.0706	0.9348	6S	33W	86	243	08m30s
1868-Aug-18	05:12:10	2	0	-1625	133	Tm	nn	-0.0443	1.0756	11N	102E	88	245	06m47s
1869-Feb-11	13:46:39	2	0	-1619	138	A	p-	-0.6251	0.9201	51S	10W	51	387	08m02s
1869-Aug-07	22:01:05	1	0	-1613	143	T	p-	0.6960	1.0551	59N	133W	46	254	03m48s
1870-Jan-31	15:26:25	1	0	-1607	148	P	t-	-1.2829	0.4781	70S	100E	0		
1870-Jun-28	23:46:43	0	0	-1602	115	P	-t	-1.1949	0.6335	67S	169W	0		
1870-Jul-28	11:02:31	0	0	-1601	153	Pb	t-	1.5044	0.0742	69N	171E	0		
1870-Dec-22	12:27:33	-0	0	-1596	120	T	-p	0.8585	1.0248	36N	2W	31	165	02m11s
1871-Jun-18	02:35:01	-1	0	-1590	125	A	-p	-0.4550	0.9481	3S	145E	63	214	07m14s
1871-Dec-12	04:03:38	-1	0	-1584	130	T	-n	0.1836	1.0465	13S	119E	80	157	04m23s
1872-Jun-06	03:20:03	-1	0	-1578	135	A	p-	0.3095	0.9590	40N	125E	72	157	04m20s
1872-Nov-30	18:29:33	-2	0	-1572	140	H	p-	-0.5081	1.0099	51S	112W	59	40	00m47s
1873-May-26	09:08:56	-2	0	-1566	145	P	t-	1.0513	0.8971	64N	100W	0		
1873-Nov-20	03:22:52	-2	0	-1560	150	P	t-	-1.2625	0.5138	63S	9W	0		
1874-Apr-16	14:00:53	-3	0	-1555	117	T	-p	-0.8364	1.0569	40S	1W	33	335	04m11s
1874-Oct-10	11:13:33	-3	0	-1549	122	An	-t	0.9889	0.9193	59N	72E	7	-	06m28s
1875-Apr-06	06:37:26	-3	0	-1543	127	T	-n	-0.1291	1.0547	0S	85E	83	182	04m37s

1875-Sep-29	12:58:09	-4	0	-1537	132	A	nn	0.2427	0.9656	10N	10W	76	127	03m36s
1876-Mar-25	20:05:06	-4	0	-1531	137	A	p-	0.6142	0.9999	35N	141W	52	1	00m01s
1876-Sep-17	21:49:15	-4	0	-1525	142	T	p-	-0.5054	1.0220	25S	164W	60	86	01m53s
1877-Mar-15	02:38:09	-4	0	-1519	147	P	t-	1.3924	0.2917	61N	57E	0		
1877-Aug-09	05:30:24	-4	0	-1514	114	P	-t	1.3277	0.3889	62N	139W	0		
1877-Sep-07	12:48:42	-4	0	-1513	152	P	t-	-1.1985	0.6382	61S	92W	0		
1878-Feb-02	08:27:52	-5	0	-1508	119	A	-p	-0.9071	0.9191	68S	122E	24	729	05m59s
1878-Jul-29	21:47:18	-5	0	-1502	124	T	-p	0.6232	1.0450	54N	124W	51	191	03m11s
1879-Jan-22	11:53:08	-5	0	-1496	129	A	nn	-0.1824	0.9700	30S	9E	79	109	03m03s
1879-Jul-19	09:04:32	-5	0	-1490	134	Am	nn	-0.1439	0.9942	13N	43E	82	20	00m39s
1880-Jan-11	22:34:25	-5	0	-1484	139	T	p-	0.5136	1.0212	8N	164W	59	84	02m07s
1880-Jul-07	13:10:28	-5	0	-1478	144	A	t-	-0.9406	0.9441	46S	33W	19	611	05m47s
1880-Dec-02	03:11:33	-5	0	-1473	111	P	-t	-1.5172	0.0370	68S	43W	0		
1880-Dec-31	13:45:01	-5	0	-1472	149	P	t-	1.1591	0.7096	65N	50W	0		
1881-May-27	23:48:40	-5	0	-1467	116	P	-t	1.1345	0.7370	68N	13E	0		
1881-Nov-21	16:31:10	-5	0	-1461	121	A	-p	-0.8930	0.9887	81S	115W	26	90	00m43s
1882-May-17	07:36:27	-5	0	-1455	126	T	-n	0.3269	1.0200	38N	62E	71	72	01m50s
1882-Nov-10	23:22:21	-6	0	-1449	131	A	-n	-0.2056	0.9466	29S	177W	78	201	06m14s
1883-May-06	21:53:49	-6	0	-1443	136	T	p-	-0.4250	1.0634	8S	145W	65	229	05m58s
1883-Oct-30	23:50:54	-6	0	-1437	141	A	p-	0.5030	0.9238	16N	175W	60	331	10m17s
1884-Mar-27	06:02:10	-6	0	-1432	108	P	-t	1.4602	0.1436	72N	8W	0		
1884-Apr-25	14:46:17	-6	0	-1431	146	P	t-	-1.1365	0.7563	71S	5E	0		
1884-Oct-19	00:17:42	-6	0	-1425	151	P	t-	1.1892	0.6385	71N	130W	0		
1885-Mar-16	17:45:42	-6	0	-1420	118	A	-p	0.8030	0.9778	49N	106W	36	132	01m55s
1885-Sep-08	20:51:52	-6	0	-1414	123	T	-p	-0.8489	1.0332	50S	157W	32	211	02m31s
1886-Mar-05	22:05:25	-6	0	-1408	128	A	nn	0.0970	0.9357	0S	150W	84	240	08m20s
1886-Aug-29	12:55:23	-6	0	-1402	133	T	nn	-0.1059	1.0735	3N	15W	84	240	06m36s
1887-Feb-22	21:33:03	-6	0	-1396	138	A	p-	-0.6040	0.9232	46S	127W	53	362	08m01s
1887-Aug-19	05:32:05	-6	0	-1390	143	T	p-	0.6312	1.0518	51N	112E	51	221	03m50s
1888-Feb-11	23:38:15	-6	0	-1384	148	P	t-	-1.2684	0.5029	71S	36W	0		
1888-Jul-09	06:30:52	-6	0	-1379	115	P	-t	-1.2797	0.4833	68S	79E	0		
1888-Aug-07	18:05:46	-6	0	-1378	153	P	t-	1.4369	0.1983	70N	53E	0		
1889-Jan-01	21:16:50	-6	0	-1373	120	T	-p	0.8603	1.0262	37N	138W	30	175	02m17s

1889-Jun-28	09:00:00	-6	0	-1367	125	A	-p	-0.5431	0.9471	10S	47E	57	232	07m22s
1889-Dec-22	12:54:14	-6	0	-1361	130	T	-n	0.1888	1.0449	13S	13W	79	152	04m18s
1890-Jun-17	09:55:05	-6	0	-1355	135	A	nn	0.2247	0.9625	36N	29E	77	140	04m09s
1890-Dec-12	03:05:28	-6	0	-1349	140	H	p-	-0.5016	1.0059	53S	124E	60	24	00m28s
1891-Jun-06	16:15:36	-6	0	-1343	145	A	t-	0.9755	0.9981	75N	164E	12	33	00m06s
1891-Dec-01	11:31:08	-6	0	-1337	150	P	t-	-1.2515	0.5326	64S	141W	0		
1892-Apr-26	21:55:20	-6	0	-1332	117	T	-p	-0.8870	1.0591	43S	119W	27	414	04m19s
1892-Oct-20	18:36:06	-6	0	-1326	122	P	-t	1.0286	0.9054	61N	33W	0		
1893-Apr-16	14:36:11	-6	0	-1320	127	T	-n	-0.1763	1.0556	1N	35W	80	186	04m47s
1893-Oct-09	20:30:22	-6	0	-1314	132	A	nn	0.2866	0.9652	8N	123W	73	130	03m41s
1894-Apr-06	03:53:41	-6	0	-1308	137	H	p-	0.5740	1.0001	37N	102E	55	1	00m01s
1894-Sep-29	05:39:02	-6	0	-1302	142	T	p-	-0.4574	1.0226	26S	79E	63	86	01m55s
1895-Mar-26	10:09:33	-6	0	-1296	147	P	t-	1.3565	0.3531	61N	65W	0		
1895-Aug-20	13:09:16	-6	0	-1291	114	P	-t	1.3911	0.2665	62N	98E	0		
1895-Sep-18	20:44:01	-6	0	-1290	152	P	t-	-1.1469	0.7369	61S	141E	0		
1896-Feb-13	16:23:13	-6	0	-1285	119	A	-p	-0.9220	0.9218	65S	3E	22	761	05m48s
1896-Aug-09	05:09:00	-6	0	-1279	124	T	-p	0.6963	1.0392	54N	132E	46	182	02m43s
1897-Feb-01	20:15:15	-6	0	-1273	129	A	nn	-0.1903	0.9742	27S	116W	79	94	02m34s
1897-Jul-29	15:56:58	-5	0	-1267	134	A	nn	-0.0640	0.9899	15N	59W	86	35	01m05s
1898-Jan-22	07:19:12	-5	0	-1261	139	T	p-	0.5079	1.0244	9N	64E	59	96	02m21s
1898-Jul-18	19:36:54	-4	0	-1255	144	A	p-	-0.8547	0.9450	36S	130W	31	385	06m11s
1898-Dec-13	11:58:13	-4	0	-1250	111	P	-t	-1.5252	0.0232	67S	174E	0		
1899-Jan-11	22:38:02	-4	0	-1249	149	P	t-	1.1558	0.7158	64N	168E	0		
1899-Jun-08	06:33:43	-4	0	-1244	116	P	-t	1.2089	0.6077	67N	99W	0		
1899-Dec-03	00:57:28	-3	0	-1238	121	A	-p	-0.9061	0.9836	87S	121E	25	140	01m01s
1900-May-28	14:53:56	-2	0	-1232	126	T	-n	0.3943	1.0249	45N	46W	67	92	02m10s
1900-Nov-22	07:19:43	-2	0	-1226	131	A	-n	-0.2245	0.9421	33S	65E	77	220	06m42s

## 20TH CENTURY CE

**In the 20th century CE the total number of solar eclipses was 228 solar eclipses: 78 partial solar eclipses, 73 annular solar eclipses (71 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 2 non-central annular solar eclipses with one limit), 71 total solar eclipses (68 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 3 non-central total solar eclipses with one limit), 6 hybrid solar eclipses.**

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°		WIDTH	DUR.
	GREATEST			S									°	km	
	ECLIPSE														
1901-May-18	05:33:48	-1	0	-1220	136	T	n-	-0.3626	1.0680	2S	98E	69	238	06m29s	
1901-Nov-11	07:28:21	-0	0	-1214	141	A	p-	0.4758	0.9216	11N	69E	62	336	11m01s	
1902-Apr-08	14:05:06	0	0	-1209	108	Pe	-t	1.5024	0.0643	72N	142W	0			
1902-May-07	22:34:16	0	0	-1208	146	P	t-	-1.0831	0.8594	70S	125W	0			
1902-Oct-31	08:00:17	1	0	-1202	151	P	t-	1.1556	0.6960	71N	101E	0			
1903-Mar-29	01:35:23	2	0	-1197	118	A	-p	0.8413	0.9767	56N	130E	32	153	01m53s	
1903-Sep-21	04:39:52	2	0	-1191	123	T	-p	-0.8967	1.0316	58S	77E	26	241	02m12s	
1904-Mar-17	05:40:44	3	0	-1185	128	A	nn	0.1299	0.9368	6N	95E	82	237	08m07s	
1904-Sep-09	20:44:21	3	0	-1179	133	T	-n	-0.1625	1.0709	4S	135W	81	234	06m20s	
1905-Mar-06	05:12:26	4	0	-1173	138	A	p-	-0.5768	0.9269	40S	117E	55	334	07m58s	
1905-Aug-30	13:07:26	5	0	-1167	143	T	p-	0.5708	1.0477	42N	4W	55	192	03m46s	
1906-Feb-23	07:43:20	5	0	-1161	148	P	t-	-1.2479	0.5386	71S	170W	0			
1906-Jul-21	13:14:19	6	0	-1156	115	P	-t	-1.3637	0.3355	69S	33W	0			
1906-Aug-20	01:12:50	6	0	-1155	153	P	t-	1.3731	0.3147	71N	66W	0			
1907-Jan-14	06:05:43	6	0	-1150	120	T	-p	0.8628	1.0281	38N	86E	30	189	02m25s	
1907-Jul-10	15:24:32	7	0	-1144	125	A	-p	-0.6313	0.9456	17S	51W	51	258	07m23s	
1908-Jan-03	21:45:21	8	0	-1138	130	T	-n	0.1933	1.0437	12S	145W	79	149	04m14s	
1908-Jun-28	16:29:51	8	0	-1132	135	A	nn	0.1390	0.9655	31N	67W	82	126	04m00s	
1908-Dec-23	11:44:28	9	0	-1126	140	H	n-	-0.4985	1.0024	53S	1W	60	10	00m12s	
1909-Jun-17	23:18:38	10	0	-1120	145	H	t-	0.8957	1.0065	83N	124E	26	51	00m24s	

1909-Dec-12	19:44:48	10	0	-1114	150	P	t-	-1.2456	0.5424	65S	86E	0		
1910-May-09	05:42:13	11	0	-1109	117	T	-t	-0.9437	1.0600	48S	125E	19	595	04m15s
1910-Nov-02	02:08:32	12	0	-1103	122	P	-t	1.0603	0.8515	62N	155W	0		
1911-Apr-28	22:27:22	12	0	-1097	127	T	-n	-0.2294	1.0562	2N	152W	77	190	04m57s
1911-Oct-22	04:13:02	13	0	-1091	132	A	-n	0.3224	0.9650	6N	121E	71	133	03m47s
1912-Apr-17	11:34:22	14	0	-1085	137	H	p-	0.5280	1.0003	38N	11W	58	1	00m02s
1912-Oct-10	13:36:14	14	0	-1079	142	T	p-	-0.4149	1.0229	28S	40W	65	85	01m55s
1913-Apr-06	17:33:07	15	0	-1073	147	P	t-	1.3147	0.4244	61N	176E	0		
1913-Aug-31	20:52:12	15	0	-1068	114	P	-t	1.4512	0.1513	61N	27W	0		
1913-Sep-30	04:45:49	15	0	-1067	152	P	t-	-1.1005	0.8252	61S	12E	0		
1914-Feb-25	00:13:01	16	0	-1062	119	A	-p	-0.9416	0.9248	62S	113W	19	839	05m35s
1914-Aug-21	12:34:27	17	0	-1056	124	T	-p	0.7655	1.0328	54N	27E	40	170	02m14s
1915-Feb-14	04:33:20	17	0	-1050	129	A	nn	-0.2024	0.9789	24S	121E	78	77	02m04s
1915-Aug-10	22:52:25	18	0	-1044	134	A	nn	0.0124	0.9853	16N	161W	89	52	01m33s
1916-Feb-03	16:00:21	18	0	-1038	139	T	p-	0.4987	1.0280	11N	68W	60	108	02m36s
1916-Jul-30	02:06:10	19	0	-1032	144	A	p-	-0.7710	0.9447	29S	132E	39	313	06m24s
1916-Dec-24	20:46:22	19	0	-1027	111	P	-t	-1.5321	0.0115	66S	32E	0		
1917-Jan-23	07:28:31	19	0	-1026	149	P	t-	1.1508	0.7254	63N	26E	0		
1917-Jun-19	13:16:20	20	0	-1021	116	P	-t	1.2857	0.4730	66N	150E	0		
1917-Jul-19	02:42:42	20	0	-1020	154	Pb	t-	-1.5101	0.0863	64S	102E	0		
1917-Dec-14	09:27:20	20	0	-1015	121	A	-t	-0.9157	0.9791	88S	125E	23	189	01m17s
1918-Jun-08	22:07:43	20	0	-1009	126	T	-p	0.4658	1.0292	51N	152W	62	112	02m23s
1918-Dec-03	15:22:01	21	0	-1003	131	A	-n	-0.2387	0.9383	36S	54W	76	236	07m06s
1919-May-29	13:08:55	21	0	-997	136	T	n-	-0.2955	1.0719	4N	17W	73	244	06m51s
1919-Nov-22	15:14:11	21	0	-991	141	A	p-	0.4549	0.9198	7N	49W	63	341	11m37s
1920-May-18	06:14:55	21	0	-985	146	P	t-	-1.0239	0.9734	69S	108E	0		
1920-Nov-10	15:52:15	22	0	-979	151	P	t-	1.1287	0.7420	70N	30W	0		
1921-Apr-08	09:15:01	22	0	-974	118	A	-t	0.8869	0.9753	64N	6E	27	191	01m50s
1921-Oct-01	12:35:58	22	0	-968	123	T	-p	-0.9383	1.0293	66S	56W	20	291	01m52s
1922-Mar-28	13:05:26	23	0	-962	128	A	nn	0.1711	0.9381	12N	18W	80	233	07m50s
1922-Sep-21	04:40:31	23	0	-956	133	T	-n	-0.2130	1.0678	11S	105E	78	226	05m59s
1923-Mar-17	12:44:58	23	0	-950	138	A	p-	-0.5438	0.9310	33S	2E	57	305	07m51s
1923-Sep-10	20:47:29	23	0	-944	143	T	p-	0.5149	1.0430	35N	122W	59	167	03m37s



1924-Mar-05	15:44:20	24	0	-938	148	P	t-	-1.2232	0.5820	72S	56E	0		
1924-Jul-31	19:58:20	24	0	-933	115	P	-t	-1.4459	0.1920	70S	146W	0		
1924-Aug-30	08:23:00	24	0	-932	153	P	t-	1.3123	0.4245	71N	173E	0		
1925-Jan-24	14:54:03	24	0	-927	120	T	-p	0.8661	1.0304	40N	50W	30	206	02m32s
1925-Jul-20	21:48:42	24	0	-921	125	A	-p	-0.7193	0.9436	25S	150W	44	300	07m15s
1926-Jan-14	06:36:58	24	0	-915	130	T	-n	0.1973	1.0430	10S	82E	79	147	04m11s
1926-Jul-09	23:06:02	24	0	-909	135	A	nn	0.0538	0.9680	26N	165W	87	115	03m51s
1927-Jan-03	20:22:53	24	0	-903	140	A	n-	-0.4956	0.9995	53S	125W	60	2	00m03s
1927-Jun-29	06:23:27	24	0	-897	145	T	t-	0.8163	1.0128	78N	74E	35	77	00m50s
1927-Dec-24	03:59:41	24	0	-891	150	P	t-	-1.2416	0.5490	66S	48W	0		
1928-May-19	13:24:20	24	0	-886	117	T-	-t	-1.0048	1.0140	63S	22E	0		
1928-Jun-17	20:27:28	24	0	-885	155	Pb	t-	1.5107	0.0376	66N	71E	0		
1928-Nov-12	09:48:24	24	0	-880	122	P	-t	1.0861	0.8078	63N	81E	0		
1929-May-09	06:10:34	24	0	-874	127	T	-n	-0.2887	1.0562	2N	93E	73	193	05m07s
1929-Nov-01	12:05:10	24	0	-868	132	A	-n	0.3514	0.9649	4N	3E	69	134	03m54s
1930-Apr-28	19:03:34	24	0	-862	137	H	p-	0.4731	1.0003	39N	121W	62	1	00m01s
1930-Oct-21	21:43:53	24	0	-856	142	T	p-	-0.3804	1.0230	31S	161W	67	84	01m55s
1931-Apr-18	00:45:35	24	0	-850	147	P	t-	1.2643	0.5107	61N	59E	0		
1931-Sep-12	04:41:25	24	0	-845	114	Pe	-t	1.5060	0.0471	61N	153W	0		
1931-Oct-11	12:55:40	24	0	-844	152	P	t-	-1.0607	0.9005	61S	119W	0		
1932-Mar-07	07:55:50	24	0	-839	119	A	-p	-0.9673	0.9277	61S	134E	14	1083	05m19s
1932-Aug-31	20:03:41	24	0	-833	124	T	-p	0.8307	1.0257	54N	79W	34	155	01m45s
1933-Feb-24	12:46:39	24	0	-827	129	A	nn	-0.2191	0.9841	21S	2W	77	58	01m32s
1933-Aug-21	05:49:11	24	0	-821	134	A	nn	0.0869	0.9801	17N	96E	85	71	02m04s
1934-Feb-14	00:38:41	24	0	-815	139	T	p-	0.4868	1.0321	13N	162E	61	123	02m53s
1934-Aug-10	08:37:48	24	0	-809	144	A	p-	-0.6890	0.9436	25S	35E	46	280	06m33s
1935-Jan-05	05:35:46	24	0	-804	111	Pe	-t	-1.5381	0.0013	65S	110W	0		
1935-Feb-03	16:16:20	24	0	-803	149	P	t-	1.1438	0.7390	62N	115W	0		
1935-Jun-30	19:59:46	24	0	-798	116	P	-t	1.3623	0.3375	65N	39E	0		
1935-Jul-30	09:16:28	24	0	-797	154	P	t-	-1.4259	0.2315	63S	6W	0		
1935-Dec-25	17:59:52	24	0	-792	121	A	-t	-0.9228	0.9753	84S	9E	22	234	01m30s
1936-Jun-19	05:20:31	24	0	-786	126	T	-p	0.5389	1.0329	56N	105E	57	132	02m31s
1936-Dec-13	23:28:12	24	0	-780	131	A	-n	-0.2493	0.9349	38S	173W	75	251	07m25s

1937-Jun-08	20:41:02	24	0	-774	136	T	n-	-0.2253	1.0751	10N	131W	77	250	07m04s
1937-Dec-02	23:05:45	24	0	-768	141	A	p-	0.4389	0.9184	4N	168W	64	344	12m00s
1938-May-29	13:50:18	24	0	-762	146	T	t-	-0.9607	1.0552	53S	22W	16	675	04m05s
1938-Nov-21	23:52:25	24	0	-756	151	P	t-	1.1077	0.7781	69N	162W	0		
1939-Apr-19	16:45:53	24	0	-751	118	A	-t	0.9388	0.9731	73N	129W	20	285	01m49s
1939-Oct-12	20:40:23	24	0	-745	123	T	-p	-0.9737	1.0266	73S	155E	12	418	01m32s
1940-Apr-07	20:21:21	24	0	-739	128	A	nn	0.2190	0.9394	19N	129W	77	230	07m30s
1940-Oct-01	12:44:06	25	0	-733	133	T	-n	-0.2573	1.0645	18S	18W	75	218	05m35s
1941-Mar-27	20:08:08	25	0	-727	138	A	p-	-0.5025	0.9355	26S	111W	60	276	07m41s
1941-Sep-21	04:34:03	25	0	-721	143	T	p-	0.4649	1.0379	27N	119E	62	143	03m22s
1942-Mar-16	23:37:07	25	0	-715	148	P	t-	-1.1908	0.6394	72S	77W	0		
1942-Aug-12	02:45:12	26	0	-710	115	Pe	-t	-1.5244	0.0562	70S	100E	0		
1942-Sep-10	15:39:32	26	0	-709	153	P	t-	1.2571	0.5231	72N	50E	0		
1943-Feb-04	23:38:10	26	0	-704	120	T	-p	0.8734	1.0331	44N	175E	29	229	02m39s
1943-Aug-01	04:16:13	26	0	-698	125	A	-p	-0.8041	0.9409	35S	109E	36	367	06m59s
1944-Jan-25	15:26:42	26	0	-692	130	T	-n	0.2025	1.0428	8S	50W	78	146	04m09s
1944-Jul-20	05:43:13	27	0	-686	135	A	nn	-0.0314	0.9700	19N	96E	88	108	03m42s
1945-Jan-14	05:01:43	27	0	-680	140	A	n-	-0.4937	0.9970	51S	110E	60	12	00m15s
1945-Jul-09	13:27:45	27	0	-674	145	T	p-	0.7356	1.0180	70N	17W	42	92	01m15s
1946-Jan-03	12:16:11	27	0	-668	150	P	t-	-1.2392	0.5529	67S	178E	0		
1946-May-30	21:00:24	28	0	-663	117	P	-t	-1.0710	0.8865	64S	101W	0		
1946-Jun-29	03:51:58	28	0	-662	155	P	t-	1.4361	0.1802	67N	51W	0		
1946-Nov-23	17:37:12	28	0	-657	122	P	-t	1.1050	0.7759	63N	45W	0		
1947-May-20	13:47:47	28	0	-651	127	T	-p	-0.3528	1.0557	0N	21W	69	196	05m13s
1947-Nov-12	20:05:37	28	0	-645	132	A	-n	0.3743	0.9650	3N	117W	68	135	03m59s
1948-May-09	02:26:04	28	0	-639	137	A	p-	0.4133	0.9999	40N	131E	65	0	00m00s
1948-Nov-01	05:59:18	29	0	-633	142	T	n-	-0.3517	1.0231	33S	76E	69	84	01m56s
1949-Apr-28	07:48:53	29	0	-627	147	P	t-	1.2068	0.6092	62N	56W	0		
1949-Oct-21	21:13:01	29	0	-621	152	P	t-	-1.0270	0.9638	62S	107E	0		
1950-Mar-18	15:32:01	29	0	-616	119	A-	-t	-0.9988	0.9620	61S	41E	0		
1950-Sep-12	03:38:47	29	0	-610	124	T	-t	0.8903	1.0182	55N	172E	27	134	01m14s
1951-Mar-07	20:53:40	30	0	-604	129	A	-n	-0.2420	0.9896	18S	124W	76	38	00m59s
1951-Sep-01	12:51:51	30	0	-598	134	A	nn	0.1557	0.9747	16N	8W	81	91	02m36s

1952-Feb-25	09:11:35	30	0	-592	139	T	p-	0.4697	1.0366	16N	33E	62	138	03m09s
1952-Aug-20	15:13:35	30	0	-586	144	A	p-	-0.6102	0.9420	22S	64W	52	264	06m40s
1953-Feb-14	00:59:30	30	0	-580	149	P	t-	1.1331	0.7596	62N	105E	0		
1953-Jul-11	02:44:14	30	0	-575	116	P	-t	1.4388	0.2015	64N	72W	0		
1953-Aug-09	15:55:03	30	0	-574	154	P	t-	-1.3440	0.3729	62S	115W	0		
1954-Jan-05	02:32:01	31	0	-569	121	A	-t	-0.9296	0.9720	79S	121W	21	278	01m42s
1954-Jun-30	12:32:38	31	0	-563	126	T	-p	0.6134	1.0357	60N	4E	52	153	02m35s
1954-Dec-25	07:36:42	31	0	-557	131	A	-n	-0.2576	0.9323	38S	68E	75	262	07m39s
1955-Jun-20	04:10:42	31	0	-551	136	T	n-	-0.1528	1.0776	15N	117E	81	254	07m08s
1955-Dec-14	07:02:25	31	0	-545	141	A	p-	0.4266	0.9176	2N	72E	65	346	12m09s
1956-Jun-08	21:20:39	32	0	-539	146	T	p-	-0.8934	1.0581	41S	141W	26	429	04m45s
1956-Dec-02	08:00:35	32	0	-533	151	P	t-	1.0923	0.8047	68N	65E	0		
1957-Apr-30	00:05:28	32	0	-528	118	A+	-t	0.9992	0.9799	71N	40E	0		
1957-Oct-23	04:54:02	32	0	-522	123	T-	-t	-1.0022	1.0013	71S	23W	0		
1958-Apr-19	03:27:17	32	0	-516	128	A	np	0.2750	0.9408	26N	124E	74	228	07m07s
1958-Oct-12	20:55:28	33	0	-510	133	T	-n	-0.2951	1.0608	24S	142W	73	209	05m11s
1959-Apr-08	03:24:08	33	0	-504	138	A	p-	-0.4546	0.9401	19S	138E	63	247	07m26s
1959-Oct-02	12:27:00	33	0	-498	143	T	n-	0.4207	1.0325	20N	1W	65	120	03m02s
1960-Mar-27	07:25:07	33	0	-492	148	P	t-	-1.1537	0.7058	72S	152E	0		
1960-Sep-20	22:59:56	33	0	-486	153	P	t-	1.2057	0.6139	72N	74W	0		
1961-Feb-15	08:19:48	34	0	-481	120	T	-p	0.8830	1.0360	47N	40E	28	258	02m45s
1961-Aug-11	10:46:47	34	0	-475	125	A	-p	-0.8859	0.9375	46S	4E	27	499	06m35s
1962-Feb-05	00:12:38	34	0	-469	130	T	-n	0.2107	1.0430	4S	178E	78	147	04m08s
1962-Jul-31	12:25:33	34	0	-463	135	Am	nn	-0.1130	0.9716	12N	6W	84	103	03m33s
1963-Jan-25	13:37:12	35	0	-457	140	A	n-	-0.4898	0.9951	48S	15W	60	20	00m25s
1963-Jul-20	20:36:13	35	0	-451	145	T	p-	0.6571	1.0224	62N	120W	49	101	01m40s
1964-Jan-14	20:30:08	35	0	-445	150	P	t-	-1.2354	0.5592	68S	43E	0		
1964-Jun-10	04:34:07	35	0	-440	117	P	-t	-1.1393	0.7545	65S	136E	0		
1964-Jul-09	11:17:53	35	0	-439	155	P	t-	1.3623	0.3222	68N	173W	0		
1964-Dec-04	01:31:54	36	0	-434	122	P	-t	1.1193	0.7518	64N	173W	0		
1965-May-30	21:17:31	36	0	-428	127	T	-p	-0.4225	1.0544	2S	134W	65	198	05m15s
1965-Nov-23	04:14:51	36	0	-422	132	A	-n	0.3906	0.9656	2N	120E	67	134	04m02s
1966-May-20	09:39:02	37	0	-416	137	A	n-	0.3467	0.9992	39N	26E	70	3	00m05s

1966-Nov-12	14:23:28	37	0	-410	142	T	n-	-0.3300	1.0234	36S	48W	71	84	01m57s
1967-May-09	14:42:48	38	0	-404	147	P	t-	1.1422	0.7201	63N	168W	0		
1967-Nov-02	05:38:56	38	0	-398	152	T-	t-	-1.0007	1.0126	62S	28W	0		
1968-Mar-28	23:00:30	38	0	-393	119	P	-t	-1.0370	0.8990	61S	80W	0		
1968-Sep-22	11:18:46	39	0	-387	124	T	-t	0.9451	1.0099	56N	64E	19	104	00m40s
1969-Mar-18	04:54:57	39	0	-381	129	A	-n	-0.2704	0.9954	15S	116E	74	16	00m26s
1969-Sep-11	19:58:59	40	0	-375	134	A	nn	0.2201	0.9690	16N	114W	77	114	03m11s
1970-Mar-07	17:38:30	40	0	-369	139	T	p-	0.4473	1.0414	18N	95W	63	153	03m28s
1970-Aug-31	21:55:30	41	0	-363	144	A	p-	-0.5364	0.9400	20S	164W	57	258	06m47s
1971-Feb-25	09:38:07	41	0	-357	149	P	t-	1.1188	0.7872	61N	34W	0		
1971-Jul-22	09:31:55	42	0	-352	116	Pe	-t	1.5130	0.0690	64N	177E	0		
1971-Aug-20	22:39:31	42	0	-351	154	P	t-	-1.2659	0.5080	62S	135E	0		
1972-Jan-16	11:03:22	42	0	-346	121	A	-t	-0.9365	0.9692	75S	108E	20	321	01m53s
1972-Jul-10	19:46:38	43	0	-340	126	T	-p	0.6872	1.0379	64N	94W	46	175	02m36s
1973-Jan-04	15:46:21	43	0	-334	131	A	-n	-0.2644	0.9303	38S	51W	74	271	07m49s
1973-Jun-30	11:38:41	44	0	-328	136	T	nn	-0.0785	1.0792	19N	6E	86	256	07m04s
1973-Dec-24	15:02:44	44	0	-322	141	A	p-	0.4171	0.9174	1N	48W	65	345	12m02s
1974-Jun-20	04:48:04	45	0	-316	146	T	p-	-0.8239	1.0592	32S	104E	34	344	05m09s
1974-Dec-13	16:13:13	45	0	-310	151	P	t-	1.0797	0.8266	67N	69W	0		
1975-May-11	07:17:33	46	0	-305	118	P	-t	1.0647	0.8636	70N	80W	0		
1975-Nov-03	13:15:54	46	0	-299	123	P	-t	-1.0248	0.9588	70S	162W	0		
1976-Apr-29	10:24:18	47	0	-293	128	A	-p	0.3378	0.9421	34N	18E	70	227	06m41s
1976-Oct-23	05:13:45	47	0	-287	133	T	-n	-0.3270	1.0572	30S	92E	71	199	04m46s
1977-Apr-18	10:31:30	48	0	-281	138	A	p-	-0.3990	0.9449	12S	28E	66	220	07m04s
1977-Oct-12	20:27:27	48	0	-275	143	T	n-	0.3836	1.0269	14N	124W	67	99	02m37s
1978-Apr-07	15:03:47	49	0	-269	148	P	t-	-1.1081	0.7883	72S	23E	0		
1978-Oct-02	06:28:43	49	0	-263	153	P	t-	1.1616	0.6905	72N	160E	0		
1979-Feb-26	16:55:06	50	0	-258	120	T	-p	0.8981	1.0391	52N	94W	26	298	02m49s
1979-Aug-22	17:22:38	50	0	-252	125	A	-t	-0.9632	0.9329	60S	109W	15	953	06m03s
1980-Feb-16	08:54:01	51	0	-246	130	T	-n	0.2224	1.0434	0S	47E	77	149	04m08s
1980-Aug-10	19:12:21	51	0	-240	135	A	nn	-0.1915	0.9727	5N	109W	79	100	03m23s
1981-Feb-04	22:09:24	51	0	-234	140	A	n-	-0.4838	0.9938	44S	141W	61	25	00m33s
1981-Jul-31	03:46:37	52	0	-228	145	T	p-	0.5792	1.0258	53N	134E	54	108	02m02s

1982-Jan-25	04:42:53	52	0	-222	150	P	t-	-1.2311	0.5663	69S	92W	0		
1982-Jun-21	12:04:33	53	0	-217	117	P	-t	-1.2102	0.6168	66S	13E	0		
1982-Jul-20	18:44:44	53	0	-216	155	P	t-	1.2886	0.4643	69N	64E	0		
1982-Dec-15	09:32:09	53	0	-211	122	P	-t	1.1293	0.7351	65N	57E	0		
1983-Jun-11	04:43:34	53	0	-205	127	T	-p	-0.4947	1.0524	6S	114E	60	199	05m11s
1983-Dec-04	12:31:15	54	0	-199	132	A	-n	0.4015	0.9666	1N	5W	66	131	04m01s
1984-May-30	16:45:42	54	0	-193	137	A	nn	0.2755	0.9980	37N	77W	74	7	00m11s
1984-Nov-22	22:54:17	54	0	-187	142	T	n-	-0.3132	1.0237	38S	174W	72	85	02m00s
1985-May-19	21:29:38	55	0	-181	147	P	t-	1.0720	0.8406	63N	81E	0		
1985-Nov-12	14:11:27	55	0	-175	152	T	t-	-0.9795	1.0388	69S	143W	11	690	01m59s
1986-Apr-09	06:21:22	55	0	-170	119	P	-t	-1.0822	0.8236	61S	161E	0		
1986-Oct-03	19:06:15	55	0	-164	124	H	-t	0.9931	1.0000	60N	37W	5	1	00m00s
1987-Mar-29	12:49:47	55	0	-158	129	H	-n	-0.3053	1.0013	12S	2W	72	5	00m08s
1987-Sep-23	03:12:22	56	0	-152	134	A	-n	0.2787	0.9634	14N	138E	74	137	03m49s
1988-Mar-18	01:58:56	56	0	-146	139	T	n-	0.4188	1.0464	21N	140E	65	169	03m46s
1988-Sep-11	04:44:29	56	0	-140	144	A	p-	-0.4681	0.9377	20S	94E	62	258	06m57s
1989-Mar-07	18:08:41	56	0	-134	149	P	t-	1.0981	0.8268	61N	170W	0		
1989-Aug-31	05:31:47	57	0	-128	154	P	t-	-1.1928	0.6344	61S	24E	0		
1990-Jan-26	19:31:24	57	0	-123	121	A	-t	-0.9457	0.9670	71S	22W	18	373	02m03s
1990-Jul-22	03:03:07	57	0	-117	126	T	-p	0.7597	1.0391	65N	169E	40	201	02m33s
1991-Jan-15	23:53:51	58	0	-111	131	A	-n	-0.2727	0.9290	36S	170W	74	277	07m53s
1991-Jul-11	19:07:01	58	0	-105	136	Tm	nn	-0.0041	1.0800	22N	105W	90	258	06m53s
1992-Jan-04	23:05:37	58	0	-99	141	A	p-	0.4091	0.9179	1N	170W	66	340	11m41s
1992-Jun-30	12:11:22	59	0	-93	146	T	p-	-0.7512	1.0592	25S	9W	41	294	05m21s
1992-Dec-24	00:31:41	59	0	-87	151	P	t-	1.0711	0.8422	66N	156E	0		
1993-May-21	14:20:15	59	0	-82	118	P	-t	1.1372	0.7352	69N	162E	0		
1993-Nov-13	21:45:51	60	0	-76	123	P	-t	-1.0411	0.9280	70S	58E	0		
1994-May-10	17:12:27	60	0	-70	128	A	-p	0.4077	0.9431	42N	84W	66	230	06m13s
1994-Nov-03	13:40:06	61	0	-64	133	T	-n	-0.3522	1.0535	35S	34W	69	189	04m23s
1995-Apr-29	17:33:21	61	0	-58	138	A	p-	-0.3382	0.9497	5S	79W	70	195	06m37s
1995-Oct-24	04:33:31	61	0	-52	143	T	n-	0.3518	1.0213	8N	113E	69	78	02m10s
1996-Apr-17	22:38:12	62	0	-46	148	P	t-	-1.0580	0.8799	71S	104W	0		
1996-Oct-12	14:03:04	62	0	-40	153	P	t-	1.1227	0.7575	72N	32E	0		

1997-Mar-09	01:24:51	62	0	-35	120	T	-p	0.9183	1.0420	58N	131E	23	356	02m50s
1997-Sep-02	00:04:48	63	0	-29	125	P	-t	-1.0352	0.8988	72S	114E	0		
1998-Feb-26	17:29:27	63	0	-23	130	T	-n	0.2391	1.0441	5N	83W	76	151	04m09s
1998-Aug-22	02:07:11	63	0	-17	135	A	nn	-0.2644	0.9734	3S	145E	75	99	03m14s
1999-Feb-16	06:34:38	63	0	-11	140	A	n-	-0.4726	0.9928	40S	94E	62	29	00m40s
1999-Aug-11	11:04:09	64	0	-5	145	T	p-	0.5062	1.0286	45N	24E	59	112	02m23s
2000-Feb-05	12:50:27	64	0	1	150	P	t-	-1.2233	0.5795	70S	134E	0		
2000-Jul-01	19:33:34	64	0	6	117	P	-t	-1.2821	0.4768	67S	109W	0		
2000-Jul-31	02:14:08	64	0	7	155	P	t-	1.2166	0.6034	70N	60W	0		
2000-Dec-25	17:35:57	64	0	12	122	P	-t	1.1367	0.7228	66N	74W	0		

## 3RD MILLENNIUM CE

In the 3rd millennium CE the total number of solar eclipses is 2 388 solar eclipses: 847 partial solar eclipses, 834 annular solar eclipses (803 central annular solar eclipses with two limits, 15 central annular solar eclipses with one limit, 16 non-central annular solar eclipses with one limit), 650 total solar eclipses (639 central total solar eclipses with two limits, 8 central total solar eclipses with one limit, 3 non-central total solar eclipses with one limit), 57 hybrid solar eclipses.

## 21ST CENTURY CE

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
GREATEST			S									°	km	
ECLIPSE														

2001-Jun-21	12:04:46	64	0	18	127	T	-p	-0.5701	1.0495	11S	3E	55	200	04m57s
2001-Dec-14	20:53:01	64	0	24	132	A	-n	0.4089	0.9681	1N	131W	66	126	03m53s
2002-Jun-10	23:45:22	64	0	30	137	A	nn	0.1993	0.9962	35N	179W	78	13	00m23s
2002-Dec-04	07:32:16	64	0	36	142	T	n-	-0.3020	1.0244	39S	60E	72	87	02m04s
2003-May-31	04:09:23	64	0	42	147	An	t-	0.9960	0.9384	67N	24W	3	-	03m37s
2003-Nov-23	22:50:22	64	0	48	152	T	t-	-0.9638	1.0379	73S	88E	15	496	01m57s
2004-Apr-19	13:35:05	65	0	53	119	P	-t	-1.1335	0.7367	62S	44E	0		
2004-Oct-14	03:00:23	65	0	59	124	P	-t	1.0348	0.9283	61N	154W	0		
2005-Apr-08	20:36:51	65	0	65	129	H	-n	-0.3473	1.0074	11S	119W	70	27	00m42s
2005-Oct-03	10:32:47	65	0	71	134	A	-p	0.3306	0.9576	13N	29E	71	162	04m32s
2006-Mar-29	10:12:23	65	0	77	139	T	n-	0.3843	1.0515	23N	17E	67	184	04m07s
2006-Sep-22	11:41:16	65	0	83	144	A	p-	-0.4062	0.9352	21S	9W	66	261	07m09s
2007-Mar-19	02:32:58	65	0	89	149	P	t-	1.0728	0.8756	61N	55E	0		
2007-Sep-11	12:32:24	65	0	95	154	P	t-	-1.1255	0.7507	61S	90W	0		
2008-Feb-07	03:56:10	66	0	100	121	A	-t	-0.9570	0.9650	68S	151W	16	444	02m12s
2008-Aug-01	10:22:12	66	0	106	126	T	-p	0.8307	1.0394	66N	72E	34	237	02m27s
2009-Jan-26	07:59:45	66	0	112	131	A	-n	-0.2820	0.9282	34S	70E	73	280	07m54s
2009-Jul-22	02:36:25	66	0	118	136	T	nn	0.0698	1.0799	24N	144E	86	258	06m39s
2010-Jan-15	07:07:39	66	0	124	141	A	p-	0.4002	0.9190	2N	69E	66	333	11m08s
2010-Jul-11	19:34:38	66	0	130	146	T	p-	-0.6788	1.0580	20S	122W	47	259	05m20s

2011-Jan-04	08:51:42	66	0	136	151	P	t-	1.0626	0.8576	65N	21E	0			
2011-Jun-01	21:17:18	67	0	141	118	P	-t	1.2130	0.6011	68N	47E	0			
2011-Jul-01	08:39:30	67	0	142	156	Pb	t-	-1.4917	0.0971	65S	29E	0			
2011-Nov-25	06:21:25	67	0	147	123	P	-t	-1.0536	0.9047	69S	82W	0			
2012-May-20	23:53:54	67	0	153	128	A	-p	0.4828	0.9439	49N	176E	61	237	05m46s	
2012-Nov-13	22:12:55	67	0	159	133	T	-n	-0.3719	1.0500	40S	161W	68	179	04m02s	
2013-May-10	00:26:20	67	0	165	138	A	pn	-0.2694	0.9544	2N	175E	74	173	06m03s	
2013-Nov-03	12:47:36	67	0	171	143	H3	n-	0.3272	1.0159	3N	12W	71	58	01m40s	
2014-Apr-29	06:04:33	67	0	177	148	A-	t-	-1.0000	0.9868	71S	131E	0			
2014-Oct-23	21:45:39	68	0	183	153	P	t-	1.0908	0.8114	71N	97W	0			
2015-Mar-20	09:46:47	68	0	188	120	T	-t	0.9454	1.0446	64N	7W	18	463	02m47s	
2015-Sep-13	06:55:19	68	0	194	125	P	-t	-1.1004	0.7875	72S	2W	0			
2016-Mar-09	01:58:19	68	0	200	130	T	-n	0.2609	1.0450	10N	149E	75	155	04m09s	
2016-Sep-01	09:08:02	68	0	206	135	A	-n	-0.3330	0.9736	11S	38E	70	100	03m06s	
2017-Feb-26	14:54:33	68	0	212	140	A	n-	-0.4578	0.9922	35S	31W	63	31	00m44s	
2017-Aug-21	18:26:40	69	0	218	145	T	p-	0.4367	1.0306	37N	88W	64	115	02m40s	
2018-Feb-15	20:52:33	69	0	224	150	P	t-	-1.2116	0.5991	71S	1E	0			
2018-Jul-13	03:02:16	69	0	229	117	P	-t	-1.3542	0.3365	68S	127E	0			
2018-Aug-11	09:47:28	69	0	230	155	P	t-	1.1476	0.7368	70N	174E	0			
2019-Jan-06	01:42:38	69	0	235	122	P	-t	1.1417	0.7146	67N	154E	0			
2019-Jul-02	19:24:07	69	0	241	127	T	-p	-0.6466	1.0459	17S	109W	50	201	04m33s	
2019-Dec-26	05:18:53	69	0	247	132	A	-n	0.4135	0.9701	1N	102E	66	118	03m39s	
2020-Jun-21	06:41:15	70	0	253	137	Am	nn	0.1209	0.9940	31N	80E	83	21	00m38s	
2020-Dec-14	16:14:39	70	0	259	142	T	n-	-0.2939	1.0254	40S	68W	73	90	02m10s	
2021-Jun-10	10:43:07	70	0	265	147	A	t-	0.9152	0.9435	81N	67W	23	527	03m51s	
2021-Dec-04	07:34:38	70	0	271	152	T	p-	-0.9526	1.0367	77S	46W	17	419	01m54s	
2022-Apr-30	20:42:37	70	1	276	119	P	-t	-1.1901	0.6396	62S	71W	0			
2022-Oct-25	11:01:20	71	1	282	124	P	-t	1.0701	0.8619	62N	77E	0			
2023-Apr-20	04:17:56	71	1	288	129	H	-n	-0.3952	1.0132	10S	126E	67	49	01m16s	
2023-Oct-14	18:00:41	71	1	294	134	A	-p	0.3753	0.9520	11N	83W	68	187	05m17s	
2024-Apr-08	18:18:29	71	1	300	139	T	n-	0.3431	1.0566	25N	104W	70	198	04m28s	
2024-Oct-02	18:46:13	71	1	306	144	A	p-	-0.3509	0.9326	22S	115W	69	266	07m25s	
2025-Mar-29	10:48:36	72	1	312	149	P	t-	1.0405	0.9376	61N	77W	0			



2025-Sep-21	19:43:04	72	1	318	154	P	t-	-1.0651	0.8550	61S	153E	0			
2026-Feb-17	12:13:06	72	1	323	121	A	-t	-0.9743	0.9630	65S	87E	12	616	02m20s	
2026-Aug-12	17:47:06	72	1	329	126	T	-p	0.8977	1.0386	65N	25W	26	294	02m18s	
2027-Feb-06	16:00:48	73	1	335	131	A	-n	-0.2952	0.9281	31S	48W	73	282	07m51s	
2027-Aug-02	10:07:50	73	1	341	136	T	nn	0.1421	1.0790	26N	33E	82	258	06m23s	
2028-Jan-26	15:08:59	73	1	347	141	A	p-	0.3901	0.9208	3N	52W	67	323	10m27s	
2028-Jul-22	02:56:40	73	1	353	146	T	p-	-0.6056	1.0560	16S	127E	53	230	05m10s	
2029-Jan-14	17:13:48	73	1	359	151	P	t-	1.0553	0.8714	64N	114W	0			
2029-Jun-12	04:06:13	74	1	364	118	P	-t	1.2943	0.4576	67N	66W	0			
2029-Jul-11	15:37:19	74	1	365	156	P	t-	-1.4191	0.2303	64S	86W	0			
2029-Dec-05	15:03:58	74	1	370	123	P	-t	-1.0609	0.8911	68S	136E	0			
2030-Jun-01	06:29:13	74	2	376	128	A	-p	0.5626	0.9443	57N	80E	55	250	05m21s	
2030-Nov-25	06:51:37	74	2	382	133	T	-n	-0.3867	1.0468	44S	71E	67	169	03m44s	
2031-May-21	07:16:04	75	2	388	138	A	nn	-0.1970	0.9589	9N	72E	79	152	05m26s	
2031-Nov-14	21:07:31	75	2	394	143	H	n-	0.3078	1.0106	1S	138W	72	38	01m08s	
2032-May-09	13:26:42	75	2	400	148	A	t-	-0.9375	0.9957	51S	7W	20	44	00m22s	
2032-Nov-03	05:34:13	75	2	406	153	P	t-	1.0643	0.8554	70N	133E	0			
2033-Mar-30	18:02:36	75	2	411	120	T	-t	0.9778	1.0462	71N	156W	11	781	02m37s	
2033-Sep-23	13:54:31	76	2	417	125	P	-t	-1.1583	0.6890	72S	121W	0			
2034-Mar-20	10:18:45	76	2	423	130	T	-n	0.2894	1.0458	16N	22E	73	159	04m09s	
2034-Sep-12	16:19:28	76	2	429	135	A	-p	-0.3936	0.9736	18S	73W	67	102	02m58s	
2035-Mar-09	23:05:54	76	2	435	140	A	n-	-0.4368	0.9919	29S	155W	64	31	00m48s	
2035-Sep-02	01:56:46	77	2	441	145	T	p-	0.3727	1.0320	29N	158E	68	116	02m54s	
2036-Feb-27	04:46:49	77	2	447	150	P	t-	-1.1942	0.6286	72S	131W	0			
2036-Jul-23	10:32:06	77	3	452	117	P	-t	-1.4250	0.1992	69S	4E	0			
2036-Aug-21	17:25:45	77	3	453	155	P	t-	1.0825	0.8622	71N	47E	0			
2037-Jan-16	09:48:55	77	3	458	122	P	-t	1.1477	0.7049	69N	21E	0			
2037-Jul-13	02:40:36	78	3	464	127	T	-p	-0.7246	1.0413	25S	139E	43	201	03m58s	
2038-Jan-05	13:47:11	78	3	470	132	A	-n	0.4169	0.9728	2N	25W	65	107	03m18s	
2038-Jul-02	13:32:55	78	3	476	137	A	nn	0.0398	0.9911	25N	22W	88	31	01m00s	
2038-Dec-26	01:00:10	79	3	482	142	T	n-	-0.2881	1.0269	40S	164E	73	95	02m18s	
2039-Jun-21	17:12:54	79	3	488	147	A	p-	0.8312	0.9454	79N	102W	33	365	04m05s	
2039-Dec-15	16:23:46	79	3	494	152	T	p-	-0.9458	1.0356	81S	173E	18	380	01m51s	

2040-May-11	03:43:02	79	3	499	119	P	-t	-1.2529	0.5306	63S	174E	0			
2040-Nov-04	19:09:02	80	3	505	124	P	-t	1.0993	0.8074	62N	53W	0			
2041-Apr-30	11:52:21	80	3	511	129	T	-p	-0.4492	1.0189	10S	12E	63	72	01m51s	
2041-Oct-25	01:36:22	80	4	517	134	A	-p	0.4133	0.9467	10N	163E	66	213	06m07s	
2042-Apr-20	02:17:30	80	4	523	139	T	n-	0.2956	1.0614	27N	137E	73	210	04m51s	
2042-Oct-14	02:00:42	81	4	529	144	A	n-	-0.3030	0.9301	24S	138E	72	273	07m44s	
2043-Apr-09	18:57:49	81	4	535	149	T+	t-	1.0031	1.0096	61N	152E	0			
2043-Oct-03	03:01:49	81	4	541	154	A-	t-	-1.0102	0.9497	61S	35E	0			
2044-Feb-28	20:24:40	82	4	546	121	As	-t	-0.9954	0.9600	62S	26W	4	-	02m27s	
2044-Aug-23	01:17:02	82	4	552	126	T	-t	0.9613	1.0364	64N	120W	15	453	02m04s	
2045-Feb-16	23:56:07	82	4	558	131	A	-n	-0.3125	0.9285	28S	166W	72	281	07m47s	
2045-Aug-12	17:42:39	82	4	564	136	T	-n	0.2116	1.0774	26N	79W	78	256	06m06s	
2046-Feb-05	23:06:26	83	4	570	141	A	p-	0.3765	0.9232	5N	171W	68	310	09m42s	
2046-Aug-02	10:21:13	83	5	576	146	T	p-	-0.5350	1.0531	13S	15E	58	206	04m51s	
2047-Jan-26	01:33:18	83	5	582	151	P	t-	1.0450	0.8908	63N	112E	0			
2047-Jun-23	10:52:31	84	5	587	118	P	-t	1.3766	0.3129	66N	178W	0			
2047-Jul-22	22:36:17	84	5	588	156	P	t-	-1.3477	0.3605	63S	160E	0			
2047-Dec-16	23:50:12	84	5	593	123	P	-t	-1.0661	0.8817	66S	7W	0			
2048-Jun-11	12:58:53	84	5	599	128	A	-p	0.6468	0.9441	64N	12W	49	271	04m58s	
2048-Dec-05	15:35:27	84	5	605	133	T	-n	-0.3973	1.0440	46S	56W	66	160	03m28s	
2049-May-31	13:59:59	85	5	611	138	A	nn	-0.1187	0.9631	15N	30W	83	134	04m45s	
2049-Nov-25	05:33:48	85	5	617	143	H	n-	0.2943	1.0057	4S	95E	73	21	00m38s	
2050-May-20	20:42:50	85	5	623	148	H	t-	-0.8688	1.0038	40S	124W	29	27	00m21s	
2050-Nov-14	13:30:53	86	5	629	153	P	t-	1.0447	0.8874	70N	1E	0			
2051-Apr-11	02:10:39	86	6	634	120	P	-t	1.0169	0.9849	72N	32E	0			
2051-Oct-04	21:02:15	86	6	640	125	P	-t	-1.2094	0.6024	72S	118E	0			
2052-Mar-30	18:31:53	87	6	646	130	T	-n	0.3239	1.0466	22N	103W	71	164	04m08s	
2052-Sep-22	23:39:10	87	6	652	135	A	-p	-0.4480	0.9734	26S	175E	63	106	02m51s	
2053-Mar-20	07:08:19	87	6	658	140	A	n-	-0.4089	0.9919	23S	83E	66	31	00m50s	
2053-Sep-12	09:34:09	88	6	664	145	T	n-	0.3140	1.0328	21N	42E	72	116	03m04s	
2054-Mar-09	12:33:40	88	6	670	150	P	t-	-1.1711	0.6678	72S	98E	0			
2054-Aug-03	18:04:02	88	6	675	117	Pe	-t	-1.4941	0.0656	70S	121W	0			
2054-Sep-02	01:09:34	88	6	676	155	P	t-	1.0215	0.9793	72N	82W	0			

2055-Jan-27	17:54:05	88	6	681	122	P	-t	1.1550	0.6932	70N	112W	0							
2055-Jul-24	09:57:50	89	7	687	127	T	-p	-0.8012	1.0359	33S	26E	37	202	03m17s					
2056-Jan-16	22:16:45	89	7	693	132	A	-n	0.4199	0.9760	4N	154W	65	95	02m52s					
2056-Jul-12	20:21:59	89	7	699	137	A	nn	-0.0426	0.9878	19N	124W	88	43	01m26s					
2057-Jan-05	09:47:52	90	7	705	142	T	n-	-0.2837	1.0287	39S	35E	73	102	02m29s					
2057-Jul-01	23:40:15	90	7	711	147	A	p-	0.7455	0.9464	71N	176W	41	298	04m22s					
2057-Dec-26	01:14:35	90	7	717	152	T	p-	-0.9405	1.0348	85S	22E	19	355	01m50s					
2058-May-22	10:39:26	91	7	722	119	P	-t	-1.3194	0.4141	64S	61E	0							
2058-Jun-21	00:19:35	91	7	723	157	Pb	t-	1.4869	0.1261	66N	10E	0							
2058-Nov-16	03:23:07	91	7	728	124	P	-t	1.1224	0.7644	63N	174E	0							
2059-May-11	19:22:16	91	8	734	129	T	-p	-0.5080	1.0242	11S	100W	59	95	02m23s					
2059-Nov-05	09:18:15	92	8	740	134	A	-p	0.4454	0.9417	9N	47E	63	238	07m00s					
2060-Apr-30	10:10:00	92	8	746	139	T	n-	0.2422	1.0660	28N	21E	76	222	05m15s					
2060-Oct-24	09:24:10	92	8	752	144	A	nn	-0.2625	0.9277	26S	28E	75	281	08m06s					
2061-Apr-20	02:56:49	93	8	758	149	T	t-	0.9578	1.0476	65N	59E	16	559	02m37s					
2061-Oct-13	10:32:10	93	8	764	154	A	t-	-0.9639	0.9469	62S	54W	15	743	03m41s					
2062-Mar-11	04:26:16	93	8	769	121	P	-t	-1.0238	0.9331	61S	147W	0							
2062-Sep-03	08:54:27	94	8	775	126	P	-t	1.0192	0.9749	61N	150E	0							
2063-Feb-28	07:43:30	94	9	781	131	A	-p	-0.3360	0.9293	25S	78E	70	280	07m41s					
2063-Aug-24	01:22:11	95	9	787	136	T	-n	0.2771	1.0750	26N	168E	74	252	05m49s					
2064-Feb-17	07:00:23	95	9	793	141	A	p-	0.3597	0.9262	7N	70E	69	295	08m56s					
2064-Aug-12	17:46:06	95	9	799	146	T	p-	-0.4652	1.0495	11S	96W	62	184	04m28s					
2065-Feb-05	09:52:26	96	9	805	151	P	t-	1.0336	0.9123	62N	22W	0							
2065-Jul-03	17:33:52	96	9	810	118	P	-t	1.4619	0.1639	65N	72E	0							
2065-Aug-02	05:34:17	96	9	811	156	P	t-	-1.2758	0.4903	63S	46E	0							
2065-Dec-27	08:39:56	96	9	816	123	P	-t	-1.0688	0.8769	65S	149W	0							
2066-Jun-22	19:25:48	97	9	822	128	A	-p	0.7330	0.9435	70N	96W	43	309	04m40s					
2066-Dec-17	00:23:40	97	10	828	133	T	-n	-0.4043	1.0416	47S	176E	66	152	03m14s					
2067-Jun-11	20:42:26	97	10	834	138	A	nn	-0.0387	0.9670	21N	130W	88	119	04m05s					
2067-Dec-06	14:03:43	98	10	840	143	H	n-	0.2845	1.0011	6S	33W	74	4	00m08s					
2068-May-31	03:56:39	98	10	846	148	T	p-	-0.7970	1.0110	31S	123E	37	63	01m06s					
2068-Nov-24	21:32:30	99	10	852	153	P	t-	1.0299	0.9109	69N	131W	0							
2069-Apr-21	10:11:09	99	10	857	120	P	-t	1.0624	0.8992	71N	101W	0							

2069-May-20	17:53:18	99	10	858	158	Pb	t-	-1.4852	0.0879	69S	70W	0		
2069-Oct-15	04:19:56	99	10	863	125	P	-t	-1.2524	0.5298	72S	6W	0		
2070-Apr-11	02:36:09	100	11	869	130	T	-n	0.3652	1.0472	29N	135E	68	168	04m04s
2070-Oct-04	07:08:57	100	11	875	135	A	-p	-0.4950	0.9731	33S	60E	60	110	02m44s
2071-Mar-31	15:01:06	100	11	881	140	A	n-	-0.3739	0.9919	17S	37W	68	31	00m52s
2071-Sep-23	17:20:28	101	11	887	145	T	n-	0.2620	1.0333	14N	77W	75	116	03m11s
2072-Mar-19	20:10:31	101	11	893	150	P	t-	-1.1405	0.7199	72S	31W	0		
2072-Sep-12	08:59:20	102	11	899	155	T	t-	0.9655	1.0558	70N	102E	14	732	03m13s
2073-Feb-07	01:55:59	102	11	904	122	P	-t	1.1651	0.6768	70N	115E	0		
2073-Aug-03	17:15:23	102	12	910	127	T	-t	-0.8763	1.0294	43S	90W	28	206	02m29s
2074-Jan-27	06:44:15	103	12	916	132	A	-n	0.4251	0.9798	7N	79E	65	79	02m21s
2074-Jul-24	03:10:32	103	12	922	137	A	nn	-0.1242	0.9838	13N	134E	83	58	01m57s
2075-Jan-16	18:36:04	104	12	928	142	T	n-	-0.2799	1.0311	37S	94W	74	110	02m42s
2075-Jul-13	06:05:44	104	12	934	147	A	p-	0.6583	0.9467	63N	95E	49	262	04m45s
2076-Jan-06	10:07:28	104	12	940	152	T	p-	-0.9373	1.0342	87S	174W	20	340	01m49s
2076-Jun-01	17:31:22	105	12	945	119	P	-t	-1.3897	0.2897	64S	51W	0		
2076-Jul-01	06:50:43	105	12	946	157	P	t-	1.4005	0.2746	67N	98W	0		
2076-Nov-26	11:43:01	105	13	951	124	P	-t	1.1401	0.7315	64N	40E	0		
2077-May-22	02:46:05	106	13	957	129	T	-p	-0.5725	1.0290	13S	148E	55	119	02m54s
2077-Nov-15	17:07:56	106	13	963	134	A	-p	0.4705	0.9371	8N	71W	62	262	07m54s
2078-May-11	17:56:55	106	13	969	139	T	n-	0.1838	1.0701	28N	94W	79	232	05m40s
2078-Nov-04	16:55:44	107	13	975	144	A	nn	-0.2285	0.9255	28S	84W	77	287	08m29s
2079-May-01	10:50:13	107	13	981	149	T	p-	0.9081	1.0512	66N	47W	24	406	02m55s
2079-Oct-24	18:11:21	108	13	987	154	A	t-	-0.9243	0.9484	63S	161W	22	495	03m39s
2080-Mar-21	12:20:15	108	14	992	121	P	-t	-1.0578	0.8734	61S	86E	0		
2080-Sep-13	16:38:09	108	14	998	126	P	-t	1.0724	0.8743	61N	26E	0		
2081-Mar-10	15:23:31	109	14	1004	131	A	-p	-0.3653	0.9304	22S	37W	68	277	07m36s
2081-Sep-03	09:07:31	109	14	1010	136	T	-n	0.3379	1.0720	25N	53E	70	247	05m33s
2082-Feb-27	14:47:00	110	14	1016	141	A	p-	0.3361	0.9298	9N	47W	70	277	08m12s
2082-Aug-24	01:16:21	110	14	1022	146	T	n-	-0.4004	1.0452	10S	152E	66	163	04m01s
2083-Feb-16	18:06:36	111	14	1028	151	P	t-	1.0170	0.9433	62N	154W	0		
2083-Jul-15	00:14:23	111	15	1033	118	Pe	-t	1.5464	0.0169	64N	38W	0		
2083-Aug-13	12:34:41	111	15	1034	156	P	t-	-1.2064	0.6146	62S	68W	0		

2084-Jan-07	17:30:24	111	15	1039	123	P	-t	-1.0715	0.8723	64S	68E	0			
2084-Jul-03	01:50:26	112	15	1045	128	A	-p	0.8208	0.9421	75N	169W	35	377	04m25s	
2084-Dec-27	09:13:48	112	15	1051	133	T	-n	-0.4094	1.0396	47S	47E	66	146	03m04s	
2085-Jun-22	03:21:16	113	15	1057	138	A	nn	0.0453	0.9704	26N	131E	87	106	03m29s	
2085-Dec-16	22:37:48	113	15	1063	143	A	n-	0.2786	0.9971	7S	161W	74	10	00m19s	
2086-Jun-11	11:07:14	114	16	1069	148	T	p-	-0.7215	1.0174	23S	12E	44	86	01m48s	
2086-Dec-06	05:38:55	114	16	1075	153	P	p-	1.0194	0.9271	67N	96E	0			
2087-May-02	18:04:42	115	16	1080	120	P	-t	1.1139	0.8011	70N	127E	0			
2087-Jun-01	01:27:14	115	16	1081	158	P	t-	-1.4186	0.2146	68S	165E	0			
2087-Oct-26	11:46:57	115	16	1086	125	P	-t	-1.2882	0.4696	71S	131W	0			
2088-Apr-21	10:31:49	115	16	1092	130	T	-p	0.4135	1.0474	36N	15E	65	173	03m58s	
2088-Oct-14	14:48:05	116	16	1098	135	A	-p	-0.5349	0.9727	40S	56W	57	115	02m38s	
2089-Apr-10	22:44:42	116	16	1104	140	A	n-	-0.3319	0.9919	10S	155W	71	30	00m53s	
2089-Oct-04	01:15:23	117	17	1110	145	T	n-	0.2167	1.0333	7N	163E	77	115	03m14s	
2090-Mar-31	03:38:08	117	17	1116	150	P	t-	-1.1028	0.7843	72S	157W	0			
2090-Sep-23	16:56:36	118	17	1122	155	T	t-	0.9157	1.0562	61N	41W	23	463	03m36s	
2091-Feb-18	09:54:40	118	17	1127	122	P	-t	1.1779	0.6558	71N	18W	0			
2091-Aug-15	00:34:43	119	17	1133	127	T	-t	-0.9490	1.0216	56S	150E	18	237	01m38s	
2092-Feb-07	15:10:20	119	17	1139	132	A	-n	0.4322	0.9840	10N	49W	64	62	01m48s	
2092-Aug-03	09:59:33	120	18	1145	137	A	nn	-0.2044	0.9794	6N	30E	78	75	02m31s	
2093-Jan-27	03:22:16	120	18	1151	142	T	n-	-0.2737	1.0340	34S	136E	74	119	02m58s	
2093-Jul-23	12:32:04	120	18	1157	147	A	p-	0.5717	0.9463	55N	1E	55	241	05m11s	
2094-Jan-16	18:59:03	121	18	1163	152	T	p-	-0.9333	1.0342	85S	11W	21	329	01m52s	
2094-Jun-13	00:22:11	121	18	1168	119	P	-t	-1.4613	0.1618	65S	164W	0			
2094-Jul-12	13:24:35	121	18	1169	157	P	t-	1.3149	0.4225	68N	152E	0			
2094-Dec-07	20:05:56	122	18	1174	124	P	-t	1.1547	0.7046	65N	95W	0			
2095-Jun-02	10:07:40	122	19	1180	129	T	-p	-0.6396	1.0332	17S	37E	50	145	03m18s	
2095-Nov-27	01:02:57	123	19	1186	134	A	-p	0.4903	0.9330	7N	170E	61	285	08m47s	
2096-May-22	01:37:14	123	19	1192	139	T	nn	0.1196	1.0737	27N	153E	83	241	06m06s	
2096-Nov-15	00:36:15	124	19	1198	144	A	nn	-0.2018	0.9237	30S	163E	78	294	08m53s	
2097-May-11	18:34:31	124	19	1204	149	T	p-	0.8516	1.0538	67N	150W	31	339	03m10s	
2097-Nov-04	02:01:25	125	19	1210	154	A	t-	-0.8926	0.9494	66S	86E	26	411	03m36s	
2098-Apr-01	20:02:31	125	20	1215	121	P	-t	-1.1005	0.7984	61S	38W	0			

2098-Sep-25	00:31:16	126	20	1221	126	P	-t	1.1184	0.7871	61N	101W	0				
2098-Oct-24	10:36:11	126	20	1222	164	Pb	t-	-1.5407	0.0057	62S	96W	0				
2099-Mar-21	22:54:32	126	20	1227	131	A	-p	-0.4016	0.9318	20S	149W	66	275	07m32s		
2099-Sep-14	16:57:53	127	20	1233	136	T	-n	0.3942	1.0684	23N	63W	67	241	05m18s		
2100-Mar-10	22:28:11	127	20	1239	141	A	n-	0.3077	0.9338	12N	163W	72	257	07m29s		
2100-Sep-04	08:49:20	128	20	1245	146	T	n-	-0.3384	1.0402	10S	39E	70	142	03m32s		

22ND CENTURY CE

In the 22nd century CE the total number of solar eclipses will be 235 solar eclipses: 79 partial solar eclipses, 87 annular solar eclipses (77 central annular solar eclipses with two limits, 5 central annular solar eclipses with one limit, 5 non-central annular solar eclipses with one limit), 65 total solar eclipses (63 central total solar eclipses with two limits, 2 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 4 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
2101-Feb-28	02:16:26	128	21	1251	151	An	t-	0.9964	0.9609	60N	80E	3	-	02m44s
2101-Aug-24	19:37:03	129	21	1257	156	P	t-	-1.1392	0.7337	62S	178E	0		
2102-Jan-19	02:21:30	129	21	1262	123	P	-t	-1.0741	0.8682	64S	74W	0		
2102-Jul-15	08:15:14	130	21	1268	128	A	-t	0.9080	0.9398	76N	134E	24	539	04m14s
2103-Jan-08	18:04:21	130	21	1274	133	T	-n	-0.4140	1.0381	46S	81W	65	140	02m57s
2103-Jul-04	10:01:48	131	22	1280	138	Am	nn	0.1285	0.9734	30N	33E	82	96	02m57s
2103-Dec-29	07:13:18	131	22	1286	143	A	n-	0.2747	0.9936	8S	70E	74	23	00m43s

2104-Jun-22	18:16:21	132	22	1292	148	T	p-	-0.6437	1.0231	17S	97W	50	103	02m26s
2104-Dec-17	13:48:27	132	22	1298	153	A+	p-	1.0120	0.9381	66N	37W	0		
2105-May-14	01:52:06	133	22	1303	120	P	-t	1.1708	0.6921	69N	2W	0		
2105-Jun-12	08:58:11	133	22	1304	158	P	t-	-1.3489	0.3483	67S	42E	0		
2105-Nov-06	19:23:02	133	22	1309	125	P	-t	-1.3168	0.4218	70S	102E	0		
2106-May-03	18:19:20	134	23	1315	130	T	-p	0.4681	1.0472	43N	103W	62	178	03m47s
2106-Oct-26	22:37:40	134	23	1321	135	A	-p	-0.5671	0.9725	46S	174W	55	119	02m32s
2107-Apr-23	06:18:41	135	23	1327	140	A	nn	-0.2829	0.9918	4S	90E	74	30	00m56s
2107-Oct-16	09:18:27	135	23	1333	145	T	n-	0.1778	1.0332	1N	40E	80	114	03m16s
2108-Apr-11	10:55:37	136	23	1339	150	P	t-	-1.0573	0.8620	72S	80E	0		
2108-Oct-05	01:01:20	136	23	1345	155	T	p-	0.8722	1.0551	52N	172W	29	371	03m50s
2109-Mar-01	17:45:53	137	24	1350	122	P	-t	1.1972	0.6238	72N	149W	0		
2109-Aug-26	07:57:26	137	24	1356	127	P	-t	-1.0178	0.9670	71S	5E	0		
2110-Feb-18	23:31:35	138	24	1362	132	A	-n	0.4438	0.9888	14N	176W	64	44	01m12s
2110-Aug-15	16:50:45	138	24	1368	137	A	-p	-0.2819	0.9746	2S	75W	74	94	03m07s
2111-Feb-08	12:05:33	139	24	1374	142	T	n-	-0.2650	1.0374	30S	6E	74	130	03m17s
2111-Aug-04	19:00:22	140	25	1380	147	A	p-	0.4867	0.9455	46N	96W	61	230	05m42s
2112-Jan-29	03:49:52	140	25	1386	152	T	p-	-0.9292	1.0346	81S	164W	21	322	01m56s
2112-Jun-24	07:09:53	141	25	1391	119	Pe	-t	-1.5356	0.0282	66S	84E	0		
2112-Jul-23	19:58:32	141	25	1392	157	P	t-	1.2284	0.5725	69N	43E	0		
2112-Dec-19	04:33:16	141	25	1397	124	P	-t	1.1648	0.6858	66N	128E	0		
2113-Jun-13	17:26:00	142	25	1403	129	T	-p	-0.7097	1.0367	22S	74W	45	174	03m36s
2113-Dec-08	09:03:27	142	25	1409	134	A	-p	0.5049	0.9296	7N	49E	60	304	09m35s
2114-Jun-03	09:14:09	143	26	1415	139	T	nn	0.0525	1.0766	25N	41E	87	248	06m32s
2114-Nov-27	08:24:15	143	26	1421	144	A	nn	-0.1815	0.9223	31S	48E	79	298	09m14s
2115-May-24	02:13:56	144	26	1427	149	T	p-	0.7912	1.0557	68N	109E	37	301	03m24s
2115-Nov-16	09:58:55	144	26	1433	154	A	p-	-0.8664	0.9503	69S	28W	30	365	03m32s
2116-Apr-13	03:36:55	145	26	1438	121	P	-t	-1.1487	0.7138	61S	161W	0		
2116-Oct-06	08:31:51	145	27	1444	126	P	-t	1.1589	0.7105	61N	130E	0		
2116-Nov-04	18:50:09	146	27	1445	164	P	t-	-1.5102	0.0613	62S	132E	0		
2117-Apr-02	06:15:20	146	27	1450	131	A	-p	-0.4459	0.9333	18S	101E	63	274	07m30s
2117-Sep-26	00:55:42	147	27	1456	136	T	-p	0.4442	1.0645	22N	178E	64	233	05m03s
2118-Mar-22	06:00:55	147	27	1462	141	A	n-	0.2719	0.9382	14N	84E	74	237	06m50s

2118-Sep-15	16:28:26	148	27	1468	146	T	n-	-0.2823	1.0349	11S	76W	74	122	03m04s
2119-Mar-11	10:19:19	148	28	1474	151	A	t-	0.9693	0.9694	57N	30W	14	451	02m13s
2119-Sep-05	02:44:27	149	28	1480	156	P	t-	-1.0766	0.8431	61S	62E	0		
2120-Jan-30	11:09:56	149	28	1485	123	P	-t	-1.0792	0.8594	63S	145E	0		
2120-Jul-25	14:40:02	150	28	1491	128	An	-t	0.9948	0.9343	66N	90E	4	-	04m00s
2121-Jan-19	02:54:15	151	28	1497	133	T	-n	-0.4190	1.0371	44S	150E	65	137	02m52s
2121-Jul-14	16:42:38	151	29	1503	138	A	nn	0.2125	0.9758	34N	65W	78	88	02m32s
2122-Jan-08	15:48:51	152	29	1509	143	A	n-	0.2713	0.9907	7S	59W	74	34	01m02s
2122-Jul-04	01:25:31	152	29	1515	148	T	p-	-0.5649	1.0280	11S	154E	56	114	02m56s
2122-Dec-28	22:00:56	153	29	1521	153	A+	p-	1.0072	0.9451	65N	170W	0		
2123-May-25	09:33:27	153	29	1526	120	P	-t	1.2325	0.5729	68N	129W	0		
2123-Jun-23	16:26:12	153	29	1527	158	P	t-	-1.2763	0.4882	66S	81W	0		
2123-Nov-18	03:07:26	154	29	1532	125	P	-t	-1.3389	0.3848	69S	26W	0		
2124-May-14	01:59:10	155	30	1538	130	T	-p	0.5286	1.0464	50N	143E	58	182	03m34s
2124-Nov-06	06:36:34	155	30	1544	135	A	-p	-0.5921	0.9724	52S	66E	53	123	02m26s
2125-May-03	13:42:33	156	30	1550	140	A	nn	-0.2263	0.9915	3N	23W	77	31	00m59s
2125-Oct-26	17:30:49	156	30	1556	145	T	n-	0.1461	1.0329	4S	84W	82	112	03m15s
2126-Apr-22	18:04:22	157	30	1562	150	A-	t-	-1.0051	0.9514	71S	40W	0		
2126-Oct-16	09:12:51	158	31	1568	155	T	p-	0.8345	1.0534	45N	58E	33	319	04m00s
2127-Mar-13	01:32:03	158	31	1573	122	P	-t	1.2208	0.5841	72N	80E	0		
2127-Sep-06	15:24:16	159	31	1579	127	P	-t	-1.0822	0.8458	72S	121W	0		
2128-Mar-01	07:48:32	159	31	1585	132	A	-n	0.4596	0.9940	19N	59E	63	24	00m37s
2128-Aug-25	23:44:34	160	31	1591	137	A	-p	-0.3562	0.9694	10S	180E	69	117	03m41s
2129-Feb-18	20:44:37	161	32	1597	142	T	n-	-0.2526	1.0411	26S	123W	75	142	03m38s
2129-Aug-15	01:33:05	161	32	1603	147	A	p-	0.4055	0.9442	37N	165E	66	225	06m15s
2130-Feb-08	12:35:23	162	32	1609	152	T	p-	-0.9212	1.0356	76S	51E	22	313	02m03s
2130-Aug-04	02:38:44	162	32	1615	157	P	t-	1.1460	0.7158	70N	69W	0		
2130-Dec-30	13:01:34	163	32	1620	124	P	-t	1.1730	0.6708	67N	9W	0		
2131-Jun-25	00:43:16	164	33	1626	129	T	-p	-0.7813	1.0393	28S	174E	38	211	03m43s
2131-Dec-19	17:06:50	164	33	1632	134	A	-p	0.5165	0.9267	8N	73W	59	321	10m14s
2132-Jun-13	16:46:24	165	33	1638	139	Tm	nn	-0.0186	1.0788	22N	71W	89	255	06m55s
2132-Dec-07	16:18:43	165	33	1644	144	A	nn	-0.1661	0.9215	32S	68W	80	301	09m33s
2133-Jun-03	09:45:16	166	33	1650	149	T	p-	0.7247	1.0567	67N	10E	43	272	03m36s



2133-Nov-26	18:05:55	167	34	1656	154	A	p-	-0.8473	0.9513	72S	144W	32	337	03m27s
2134-Apr-24	10:59:59	167	34	1661	121	P	-t	-1.2052	0.6147	62S	80E	0		
2134-May-23	23:01:18	167	34	1662	159	Pb	t-	1.5285	0.0309	64N	55E	0		
2134-Oct-17	16:40:42	168	34	1667	126	P	-t	1.1931	0.6458	62N	1W	0		
2134-Nov-16	03:12:08	168	34	1668	164	P	t-	-1.4857	0.1060	63S	3W	0		
2135-Apr-13	13:27:05	168	34	1673	131	A	-p	-0.4973	0.9349	18S	7W	60	274	07m30s
2135-Oct-07	09:00:03	169	35	1679	136	T	-p	0.4884	1.0603	20N	57E	61	224	04m50s
2136-Apr-01	13:26:19	170	35	1685	141	A	nn	0.2295	0.9430	16N	27W	77	216	06m14s
2136-Sep-26	00:12:14	170	35	1691	146	T	n-	-0.2309	1.0292	13S	169E	77	101	02m34s
2137-Mar-21	18:16:38	171	35	1697	151	A	t-	0.9369	0.9769	56N	145W	20	233	01m40s
2137-Sep-15	09:56:34	172	35	1703	156	P	t-	-1.0184	0.9436	61S	54W	0		
2138-Feb-09	19:55:23	172	36	1708	123	P	-t	-1.0872	0.8453	62S	5E	0		
2138-Aug-05	21:08:57	173	36	1714	128	P	-t	1.0781	0.8285	62N	10W	0		
2139-Jan-30	11:42:25	174	36	1720	133	T	-n	-0.4255	1.0364	41S	20E	65	135	02m49s
2139-Jul-25	23:26:33	174	36	1726	138	A	nn	0.2946	0.9778	36N	162W	73	83	02m13s
2140-Jan-20	00:23:11	175	36	1732	143	A	n-	0.2676	0.9882	5S	173E	75	43	01m17s
2140-Jul-14	08:36:11	175	37	1738	148	T	p-	-0.4861	1.0322	7S	46E	61	124	03m18s
2141-Jan-08	06:12:38	176	37	1744	153	A+	p-	1.0024	0.9522	64N	57E	0		
2141-Jun-04	17:09:59	177	37	1749	120	P	-t	1.2981	0.4458	67N	106E	0		
2141-Jul-03	23:53:38	177	37	1750	158	P	t-	-1.2029	0.6305	65S	157E	0		
2141-Nov-28	10:59:33	177	37	1755	125	P	-t	-1.3552	0.3577	68S	156W	0		
2142-May-25	09:32:37	178	37	1761	130	T	-p	0.5938	1.0449	57N	31E	53	187	03m17s
2142-Nov-17	14:43:08	179	38	1767	135	A	-p	-0.6117	0.9727	56S	53W	52	124	02m19s
2143-May-14	20:58:14	179	38	1773	140	Am	nn	-0.1638	0.9908	9N	133W	81	33	01m05s
2143-Nov-07	01:51:16	180	38	1779	145	T	n-	0.1206	1.0326	9S	150E	83	111	03m14s
2144-May-03	01:02:06	181	38	1785	150	A	t-	-0.9441	0.9363	54S	176W	19	727	06m09s
2144-Oct-26	17:32:40	181	39	1791	155	T	p-	0.8037	1.0512	39N	72W	36	284	04m05s
2145-Mar-23	09:09:38	182	39	1796	122	P	-t	1.2520	0.5311	72N	49W	0		
2145-Sep-16	22:57:10	183	39	1802	127	P	-t	-1.1406	0.7368	72S	112E	0		
2145-Oct-16	09:11:28	183	39	1803	165	Pb	t-	1.5190	0.0360	71N	101E	0		
2146-Mar-12	15:58:15	183	39	1808	132	A	-p	0.4821	0.9995	24N	66W	61	2	00m03s
2146-Sep-06	06:44:00	184	39	1814	137	A	-p	-0.4249	0.9640	18S	72E	65	143	04m13s
2147-Mar-02	05:18:54	185	40	1820	142	T	n-	-0.2359	1.0452	21S	108E	76	155	04m02s

2147-Aug-26	08:09:15	185	40	1826	147	A	pn	0.3271	0.9425	29N	65E	71	224	06m49s
2148-Feb-19	21:18:00	186	40	1832	152	T	p-	-0.9111	1.0370	71S	89W	24	305	02m13s
2148-Aug-14	09:22:21	187	40	1838	157	P	t-	1.0654	0.8563	71N	177E	0		
2149-Jan-09	21:30:38	187	40	1843	124	P	-t	1.1802	0.6575	68N	147W	0		
2149-Jul-05	07:59:34	188	41	1849	129	T	-p	-0.8544	1.0408	36S	62E	31	264	03m38s
2149-Dec-30	01:13:04	189	41	1855	134	A	-p	0.5253	0.9245	9N	164E	58	334	10m42s
2150-Jun-25	00:17:25	189	41	1861	139	T	nn	-0.0911	1.0802	18N	178E	85	260	07m14s
2150-Dec-19	00:17:02	190	41	1867	144	A	nn	-0.1535	0.9211	32S	174E	81	302	09m46s
2151-Jun-14	17:13:45	191	42	1873	149	T	p-	0.6561	1.0569	64N	90W	49	249	03m48s
2151-Dec-08	02:18:31	191	42	1879	154	A	p-	-0.8320	0.9526	75S	103E	33	314	03m22s
2152-May-04	18:14:02	192	42	1884	121	P	-t	-1.2680	0.5044	62S	37W	0		
2152-Jun-03	06:11:19	192	42	1885	159	P	t-	1.4644	0.1479	65N	62W	0		
2152-Oct-28	00:57:34	193	42	1890	126	P	-t	1.2213	0.5926	62N	134W	0		
2152-Nov-26	11:41:08	193	42	1891	164	P	t-	-1.4665	0.1409	64S	139W	0		
2153-Apr-23	20:29:24	193	42	1896	131	A	-p	-0.5557	0.9364	18S	112W	56	279	07m31s
2153-Oct-17	17:12:17	194	43	1902	136	T	-p	0.5259	1.0560	19N	66W	58	214	04m36s
2154-Apr-12	20:43:01	195	43	1908	141	A	nn	0.1794	0.9478	18N	135W	80	195	05m42s
2154-Oct-07	08:03:50	196	43	1914	146	T	nn	-0.1867	1.0234	15S	52E	79	81	02m05s
2155-Apr-02	02:06:34	196	43	1920	151	A	t-	0.8975	0.9844	56N	101E	26	123	01m07s
2155-Sep-26	17:14:27	197	44	1926	156	A	t-	-0.9654	0.9593	59S	144W	15	569	02m55s
2156-Feb-21	04:36:02	198	44	1931	123	P	-t	-1.0995	0.8230	62S	134W	0		
2156-Aug-16	03:41:28	198	44	1937	128	P	-t	1.1584	0.6912	62N	117W	0		
2157-Feb-09	20:25:36	199	44	1943	133	T	-p	-0.4358	1.0362	38S	109W	64	135	02m49s
2157-Aug-05	06:14:19	200	44	1949	138	A	-p	0.3743	0.9792	37N	99E	68	80	01m59s
2158-Jan-30	08:54:37	201	45	1955	143	A	n-	0.2619	0.9863	3S	45E	75	50	01m27s
2158-Jul-25	15:49:17	201	45	1961	148	T	p-	-0.4086	1.0356	3S	62W	66	131	03m32s
2159-Jan-19	14:23:26	202	45	1967	153	A+	p-	0.9974	0.9600	63N	75W	0		
2159-Jun-16	00:42:43	203	45	1972	120	P	-t	1.3668	0.3124	66N	18W	0		
2159-Jul-15	07:20:50	203	45	1973	158	P	t-	-1.1288	0.7743	64S	36E	0		
2159-Dec-09	18:58:33	203	46	1978	125	P	-t	-1.3664	0.3392	67S	74E	0		
2160-Jun-04	16:58:36	204	46	1984	130	T	-p	0.6645	1.0428	64N	75W	48	192	02m58s
2160-Nov-27	22:58:32	205	46	1990	135	A	-p	-0.6247	0.9734	60S	172W	51	123	02m11s
2161-May-25	04:05:43	206	46	1996	140	A	nn	-0.0950	0.9898	16N	119E	85	36	01m12s

2161-Nov-17	10:19:30	206	47	2002	145	T	n-	0.1012	1.0325	13S	23E	84	110	03m13s
2162-May-14	07:52:46	207	47	2008	150	A	p-	-0.8775	0.9396	42S	72E	28	467	06m37s
2162-Nov-07	01:59:40	208	47	2014	155	T	p-	0.7788	1.0489	34N	158E	39	258	04m05s
2163-Apr-03	16:41:51	208	47	2019	122	P	-t	1.2876	0.4698	72N	176W	0		
2163-Sep-28	06:34:34	209	47	2025	127	P	-t	-1.1943	0.6377	72S	16W	0		
2163-Oct-27	17:20:52	209	47	2026	165	P	t-	1.4919	0.0889	71N	34W	0		
2164-Mar-23	00:02:47	210	48	2031	132	H	-p	0.5096	1.0051	30N	171E	59	20	00m29s
2164-Sep-16	13:48:20	211	48	2037	137	A	-p	-0.4885	0.9583	26S	37W	61	172	04m42s
2165-Mar-12	13:45:50	211	48	2043	142	T	n-	-0.2130	1.0495	15S	19W	78	168	04m27s
2165-Sep-05	14:52:45	212	48	2049	147	A	nn	0.2549	0.9406	21N	38W	75	227	07m22s
2166-Mar-02	05:53:21	213	49	2055	152	T	p-	-0.8957	1.0388	65S	134E	26	294	02m26s
2166-Aug-25	16:13:35	214	49	2061	157	An	t-	0.9900	0.9531	74N	41E	7	-	03m00s
2167-Jan-21	05:56:25	214	49	2066	124	P	-t	1.1892	0.6414	69N	75E	0		
2167-Jul-16	15:17:48	215	49	2072	129	T	-t	-0.9262	1.0410	47S	53W	22	368	03m19s
2168-Jan-10	09:19:03	216	50	2078	134	A	-p	0.5337	0.9230	10N	42E	58	344	10m55s
2168-Jul-05	07:45:23	217	50	2084	139	T	-n	-0.1660	1.0807	13N	66E	81	264	07m26s
2168-Dec-29	08:19:32	217	50	2090	144	A	nn	-0.1444	0.9215	32S	56E	82	300	09m52s
2169-Jun-25	00:37:09	218	50	2096	149	T	p-	0.5841	1.0562	59N	168E	54	229	03m58s
2169-Dec-18	10:37:07	219	50	2102	154	A	p-	-0.8213	0.9544	77S	7W	34	295	03m15s
2170-May-16	01:18:33	219	51	2107	121	P	-t	-1.3371	0.3831	63S	152W	0		
2170-Jun-14	13:15:10	220	51	2108	159	P	t-	1.3963	0.2719	65N	178W	0		
2170-Nov-08	09:23:07	220	51	2113	126	P	-t	1.2426	0.5524	63N	91E	0		
2170-Dec-07	20:17:08	220	51	2114	164	P	t-	-1.4530	0.1654	65S	83E	0		
2171-May-05	03:23:15	221	51	2119	131	A	-p	-0.6209	0.9378	19S	144E	51	289	07m32s
2171-Oct-29	01:31:03	222	51	2125	136	T	-p	0.5577	1.0516	18N	168E	56	203	04m23s
2172-Apr-23	03:53:15	223	52	2131	141	A	nn	0.1234	0.9528	19N	119E	83	174	05m11s
2172-Oct-17	16:01:36	223	52	2137	146	H3	nn	-0.1484	1.0174	17S	67W	81	60	01m34s
2173-Apr-12	09:49:40	224	52	2143	151	A	p-	0.8515	0.9919	56N	11W	31	53	00m34s
2173-Oct-07	00:39:14	225	52	2149	156	A	p-	-0.9187	0.9558	58S	113E	23	402	03m17s
2174-Mar-03	13:11:54	226	53	2154	123	P	-t	-1.1162	0.7924	61S	88E	0		
2174-Apr-01	22:39:09	226	53	2155	161	Pb	t-	1.5106	0.0471	61N	103E	0		
2174-Aug-27	10:19:55	226	53	2160	128	P	-t	1.2336	0.5630	61N	135E	0		
2175-Feb-21	05:04:24	227	53	2166	133	T	-p	-0.4495	1.0362	34S	122E	63	135	02m50s

2175-Aug-16	13:08:17	228	53	2172	138	A	-p	0.4497	0.9802	38N	1W	63	78	01m50s
2176-Feb-10	17:21:21	229	54	2178	143	A	n-	0.2532	0.9849	1S	82W	75	55	01m34s
2176-Aug-04	23:05:55	230	54	2184	148	T	p-	-0.3332	1.0383	1S	171W	71	136	03m40s
2177-Jan-29	22:30:30	230	54	2190	153	An	p-	0.9897	0.9212	58N	164E	7	-	06m55s
2177-Jun-26	08:13:27	231	54	2195	120	P	-t	1.4371	0.1758	66N	140W	0		
2177-Jul-25	14:50:33	231	54	2196	158	P	t-	-1.0564	0.9150	63S	86W	0		
2177-Dec-20	03:01:35	232	55	2201	125	P	-t	-1.3748	0.3251	66S	57W	0		
2178-Jun-16	00:20:42	233	55	2207	130	T	-p	0.7379	1.0396	71N	176W	42	198	02m36s
2178-Dec-09	07:20:02	233	55	2213	135	A	-p	-0.6338	0.9745	62S	69E	50	118	02m03s
2179-Jun-05	11:05:36	234	55	2219	140	A	nn	-0.0209	0.9884	21N	14E	89	41	01m21s
2179-Nov-28	18:54:18	235	56	2225	145	T	n-	0.0867	1.0325	17S	105W	85	110	03m12s
2180-May-24	14:34:27	236	56	2231	150	A	p-	-0.8035	0.9422	33S	34W	36	359	06m59s
2180-Nov-17	10:34:01	237	56	2237	155	T	p-	0.7605	1.0465	30N	26E	40	238	04m03s
2181-Apr-14	00:04:05	237	56	2242	122	P	-t	1.3318	0.3931	71N	60E	0		
2181-May-13	14:55:43	237	56	2243	160	Pb	t-	-1.5322	0.0511	69S	18W	0		
2181-Oct-08	14:19:36	238	56	2248	127	P	-t	-1.2408	0.5529	72S	146W	0		
2181-Nov-07	01:38:23	238	57	2249	165	P	t-	1.4718	0.1281	70N	172W	0		
2182-Apr-03	07:59:43	239	57	2254	132	H	-p	0.5440	1.0108	37N	50E	57	44	00m58s
2182-Sep-27	20:58:45	240	57	2260	137	A	-p	-0.5462	0.9527	34S	147W	57	205	05m05s
2183-Mar-23	22:06:49	241	57	2266	142	T	n-	-0.1848	1.0540	9S	146W	79	181	04m54s
2183-Sep-16	21:42:37	241	57	2272	147	A	nn	0.1877	0.9384	13N	143W	79	233	07m53s
2184-Mar-12	14:22:32	242	58	2278	152	T	p-	-0.8755	1.0409	59S	1W	29	283	02m43s
2184-Sep-04	23:11:00	243	58	2284	157	A	t-	0.9185	0.9576	67N	124W	23	393	03m12s
2185-Jan-31	14:20:20	244	58	2289	124	P	-t	1.1992	0.6238	70N	63W	0		
2185-Jul-26	22:38:16	245	58	2295	129	Ts	-t	-0.9967	1.0370	68S	179W	1	-	02m27s
2186-Jan-20	17:23:44	245	59	2301	134	A	-p	0.5426	0.9221	13N	81W	57	350	10m53s
2186-Jul-16	15:14:54	246	59	2307	139	T	-n	-0.2396	1.0805	7N	47W	76	267	07m29s
2187-Jan-09	16:23:41	247	59	2313	144	A	nn	-0.1365	0.9224	30S	63W	82	296	09m51s
2187-Jul-06	07:58:31	248	59	2319	149	T	p-	0.5109	1.0548	54N	63E	59	211	04m06s
2187-Dec-29	18:59:03	249	60	2325	154	A	p-	-0.8126	0.9565	78S	112W	35	274	03m07s
2188-May-26	08:15:53	249	60	2330	121	P	-t	-1.4109	0.2538	64S	94E	0		
2188-Jun-24	20:14:38	250	60	2331	159	P	t-	1.3252	0.4008	66N	67E	0		
2188-Nov-18	17:55:24	250	60	2336	126	P	-t	1.2591	0.5212	63N	46W	0		

2188-Dec-18	04:56:59	250	60	2337	164	P	t-	-1.4420	0.1850	66S	57W	0		
2189-May-15	10:08:34	251	60	2342	131	A	-p	-0.6928	0.9387	23S	43E	46	309	07m31s
2189-Nov-08	09:57:28	252	61	2348	136	T	-p	0.5831	1.0474	17N	41E	54	192	04m10s
2190-May-04	10:56:30	253	61	2354	141	A	nn	0.0608	0.9577	19N	15E	86	154	04m45s
2190-Oct-29	00:05:50	254	61	2360	146	H	nn	-0.1160	1.0116	20S	173E	83	40	01m04s
2191-Apr-23	17:26:06	255	62	2366	151	A	p-	0.7991	0.9993	57N	120W	37	4	00m03s
2191-Oct-18	08:11:12	255	62	2372	156	A	p-	-0.8783	0.9516	59S	5E	28	365	03m39s
2192-Mar-13	21:40:00	256	62	2377	123	P	-t	-1.1395	0.7490	61S	47W	0		
2192-Apr-12	06:41:56	256	62	2378	161	P	t-	1.4678	0.1261	61N	26W	0		
2192-Sep-06	17:05:08	257	62	2383	128	P	-t	1.3032	0.4444	61N	25E	0		
2193-Mar-03	13:36:08	258	63	2389	133	T	-p	-0.4689	1.0365	31S	5W	62	137	02m53s
2193-Aug-26	20:09:19	259	63	2395	138	A	-p	0.5200	0.9806	37N	104W	58	80	01m45s
2194-Feb-21	01:41:31	260	63	2401	143	A	n-	0.2396	0.9840	2N	153E	76	58	01m38s
2194-Aug-16	06:28:08	260	63	2407	148	T	n-	-0.2616	1.0403	0S	79E	75	139	03m44s
2195-Feb-10	06:34:27	261	64	2413	153	An	p-	0.9797	0.9218	55N	41E	11	-	06m52s
2195-Jul-07	15:41:21	262	64	2418	120	Pe	-t	1.5095	0.0354	65N	98E	0		
2195-Aug-05	22:21:03	262	64	2419	158	Ts	t-	-0.9843	1.0618	56S	166E	9	-	04m03s
2195-Dec-31	11:09:22	263	64	2424	125	P	-t	-1.3797	0.3166	65S	171E	0		
2196-Jun-26	07:37:40	264	64	2430	130	T	-p	0.8149	1.0356	76N	96E	35	208	02m12s
2196-Dec-19	15:47:09	265	65	2436	135	A	-p	-0.6387	0.9762	63S	49W	50	111	01m53s
2197-Jun-15	17:59:33	266	65	2442	140	A	nn	0.0574	0.9864	27N	88W	87	48	01m32s
2197-Dec-09	03:35:07	266	65	2448	145	T	n-	0.0768	1.0329	19S	125E	86	111	03m13s
2198-Jun-04	21:11:35	267	65	2454	150	A	p-	-0.7259	0.9443	24S	136W	43	299	07m13s
2198-Nov-28	19:12:46	268	66	2460	155	T	p-	0.7459	1.0442	27N	107W	42	221	03m58s
2199-Apr-25	07:21:51	269	66	2465	122	P	-t	1.3799	0.3085	71N	62W	0		
2199-May-24	21:42:07	269	66	2466	160	P	t-	-1.4596	0.1743	68S	131W	0		
2199-Oct-19	22:10:26	270	66	2471	127	P	-t	-1.2817	0.4790	71S	82E	0		
2199-Nov-18	10:01:01	270	66	2472	165	P	t-	1.4563	0.1584	69N	51E	0		
2200-Apr-14	15:49:57	271	66	2477	132	T	-p	0.5847	1.0165	44N	69W	54	69	01m23s
2200-Oct-09	04:16:21	272	67	2483	137	A	-p	-0.5972	0.9470	41S	101E	53	241	05m25s

23RD CENTURY CE

In the 23rd century CE the total number of solar eclipses will be 248 solar eclipses: 92 partial solar eclipses, 86 annular solar eclipses (86 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 67 total solar eclipses (67 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 3 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
2201-Apr-04	06:19:56	272	67	2489	142	T	n-	-0.1495	1.0584	3S	89E	81	194	05m20s
2201-Sep-28	04:41:51	273	67	2495	147	A	nn	0.1281	0.9361	5N	111E	83	240	08m21s
2202-Mar-24	22:42:58	274	67	2501	152	T	p-	-0.8484	1.0431	53S	133W	32	271	03m03s
2202-Sep-17	06:18:53	275	68	2507	157	A	t-	0.8545	0.9597	57N	113E	31	281	03m24s
2203-Feb-12	22:38:35	276	68	2512	124	P	-t	1.2128	0.5998	71N	160E	0		
2203-Aug-08	06:01:56	277	68	2518	129	P	-t	-1.0650	0.8897	70S	56E	0		
2203-Sep-06	14:50:22	277	68	2519	167	Pb	t-	1.5374	0.0068	72N	69E	0		
2204-Feb-02	01:25:25	278	68	2524	134	A	-p	0.5535	0.9218	16N	157E	56	353	10m38s
2204-Jul-27	22:44:32	279	69	2530	139	T	-n	-0.3129	1.0793	1N	161W	72	269	07m22s
2205-Jan-21	00:27:32	280	69	2536	144	A	nn	-0.1281	0.9241	27S	178E	82	289	09m42s
2205-Jul-17	15:18:00	280	69	2542	149	T	p-	0.4366	1.0525	47N	44W	64	193	04m10s
2206-Jan-10	03:24:08	281	70	2548	154	A	p-	-0.8060	0.9593	76S	140E	36	252	02m57s
2206-Jun-07	15:05:59	282	70	2553	121	Pe	-t	-1.4894	0.1166	65S	18W	0		
2206-Jul-07	03:10:26	282	70	2554	159	P	t-	1.2516	0.5335	67N	47W	0		
2206-Dec-01	02:33:55	283	70	2559	126	P	-t	1.2711	0.4985	64N	175E	0		
2206-Dec-30	13:40:30	283	70	2560	164	P	t-	-1.4337	0.1997	67S	162E	0		
2207-May-27	16:47:47	284	70	2565	131	A	-p	-0.7693	0.9393	27S	58W	40	347	07m25s

2207-Nov-20	18:30:26	285	71	2571	136	T	-p	0.6028	1.0434	16N	89W	53	180	03m56s
2208-May-15	17:53:06	286	71	2577	141	A	nn	-0.0080	0.9625	19N	88W	90	136	04m19s
2208-Nov-09	08:17:12	287	71	2583	146	H	nn	-0.0905	1.0059	22S	51E	85	20	00m34s
2209-May-05	00:56:53	288	71	2589	151	H	p-	0.7413	1.0066	58N	134E	42	34	00m28s
2209-Oct-29	15:50:20	289	72	2595	156	A	p-	-0.8445	0.9472	61S	107W	32	358	04m02s
2210-Mar-26	06:01:57	289	72	2600	123	P	-t	-1.1680	0.6954	61S	178E	0		
2210-Apr-24	14:39:19	289	72	2601	161	P	t-	1.4202	0.2149	62N	154W	0		
2210-Sep-18	23:59:09	290	72	2606	128	P	-t	1.3657	0.3384	61N	87W	0		
2211-Mar-15	22:01:40	291	72	2612	133	T	-p	-0.4931	1.0368	28S	131W	60	140	02m57s
2211-Sep-08	03:17:18	292	73	2618	138	A	-p	0.5855	0.9808	37N	152E	54	83	01m43s
2212-Mar-04	09:55:00	293	73	2624	143	A	nn	0.2211	0.9834	5N	29E	77	60	01m40s
2212-Aug-27	13:56:17	294	73	2630	148	T	n-	-0.1940	1.0416	0S	32W	79	142	03m45s
2213-Feb-21	14:30:14	295	74	2636	153	A	p-	0.9635	0.9230	53N	79W	15	1080	06m44s
2213-Aug-17	05:56:32	296	74	2642	158	T	t-	-0.9161	1.0653	46S	60E	23	525	04m35s
2214-Jan-11	19:17:52	297	74	2647	125	P	-t	-1.3848	0.3078	64S	39E	0		
2214-Jul-08	14:52:45	298	74	2653	130	T	-t	0.8925	1.0303	78N	28E	26	230	01m46s
2215-Jan-01	00:16:36	298	75	2659	135	A	-p	-0.6427	0.9783	62S	169W	50	101	01m41s
2215-Jun-28	00:48:45	299	75	2665	140	A	nn	0.1388	0.9839	31N	171E	82	58	01m44s
2215-Dec-21	12:20:08	300	75	2671	145	T	n-	0.0701	1.0337	20S	5W	86	114	03m14s
2216-Jun-16	03:41:04	301	75	2677	150	A	p-	-0.6420	0.9458	17S	124E	50	260	07m20s
2216-Dec-10	03:57:51	302	76	2683	155	T	p-	0.7367	1.0421	25N	119E	42	208	03m51s
2217-May-06	14:31:15	303	76	2688	122	P	-t	1.4355	0.2100	70N	178E	0		
2217-Jun-05	04:22:20	303	76	2689	160	P	t-	-1.3806	0.3095	67S	118E	0		
2217-Oct-31	06:08:54	304	76	2694	127	P	-t	-1.3157	0.4185	71S	51W	0		
2217-Nov-29	18:29:51	304	76	2695	165	P	t-	1.4464	0.1783	68N	88W	0		
2218-Apr-25	23:33:14	305	77	2700	132	T	-p	0.6321	1.0219	51N	174E	51	96	01m43s
2218-Oct-20	11:41:55	306	77	2706	137	A	-p	-0.6411	0.9416	48S	13W	50	280	05m41s
2219-Apr-15	14:26:33	307	77	2712	142	T	n-	-0.1086	1.0628	4N	34W	84	207	05m45s
2219-Oct-09	11:48:35	308	77	2718	147	A	nn	0.0744	0.9338	2S	2E	86	248	08m46s
2220-Apr-04	06:56:41	309	78	2724	152	T	p-	-0.8162	1.0454	46S	98E	35	260	03m26s
2220-Sep-27	13:35:07	310	78	2730	157	A	p-	0.7966	0.9609	48N	4W	37	232	03m36s
2221-Feb-23	06:50:48	311	78	2735	124	P	-t	1.2305	0.5688	72N	23E	0		
2221-Aug-18	13:30:39	312	78	2741	129	P	-t	-1.1296	0.7673	71S	69W	0		

2221-Sep-16	22:25:14	312	79	2742	167	P	t-	1.4775	0.1171	72N	59W	0		
2222-Feb-12	09:23:17	313	79	2747	134	A	-p	0.5669	0.9220	20N	36E	55	355	10m14s
2222-Aug-08	06:17:05	313	79	2753	139	T	-n	-0.3837	1.0774	6S	84E	67	270	07m06s
2223-Feb-01	08:29:43	314	79	2759	144	A	nn	-0.1179	0.9263	24S	58E	83	279	09m26s
2223-Jul-28	22:38:03	315	80	2765	149	T	n-	0.3636	1.0495	40N	152W	68	176	04m09s
2224-Jan-21	11:48:53	316	80	2771	154	A	p-	-0.7984	0.9626	72S	24E	37	227	02m46s
2224-Jul-17	10:03:58	317	80	2777	159	P	t-	1.1767	0.6678	68N	161W	0		
2224-Dec-11	11:17:51	318	80	2782	126	P	-t	1.2791	0.4834	65N	34E	0		
2225-Jan-09	22:25:24	318	80	2783	164	P	t-	-1.4263	0.2126	68S	20E	0		
2225-Jun-06	23:21:31	319	81	2788	131	A	-p	-0.8497	0.9392	35S	157W	32	425	07m10s
2225-Dec-01	03:08:36	320	81	2794	136	T	-p	0.6178	1.0398	15N	141E	52	169	03m43s
2226-May-27	00:45:11	321	81	2800	141	A	nn	-0.0810	0.9670	17N	171E	85	119	03m55s
2226-Nov-20	16:34:56	322	82	2806	146	Hm	nn	-0.0711	1.0005	24S	72W	86	2	00m03s
2227-May-16	08:21:31	323	82	2812	151	T	p-	0.6774	1.0135	58N	30E	47	63	00m59s
2227-Nov-09	23:36:42	324	82	2818	156	A	p-	-0.8171	0.9429	63S	140E	35	364	04m24s
2228-Apr-05	14:15:36	325	82	2823	123	P	-t	-1.2036	0.6279	61S	47E	0		
2228-May-04	22:28:44	325	82	2824	161	P	t-	1.3659	0.3174	62N	80E	0		
2228-Sep-29	07:02:07	326	83	2829	128	P	-t	1.4212	0.2445	61N	159E	0		
2228-Oct-29	00:15:43	326	83	2830	166	Pb	t-	-1.5410	0.0477	62S	57E	0		
2229-Mar-26	06:17:34	327	83	2835	133	T	-p	-0.5251	1.0371	25S	105E	58	144	03m02s
2229-Sep-18	10:34:51	328	83	2841	138	A	-p	0.6439	0.9805	36N	44E	50	89	01m44s
2230-Mar-15	18:00:26	329	84	2847	143	A	nn	0.1964	0.9831	8N	92W	79	61	01m40s
2230-Sep-07	21:30:39	330	84	2853	148	T	n-	-0.1308	1.0424	1S	145W	82	143	03m44s
2231-Mar-04	22:20:23	331	84	2859	153	A	p-	0.9430	0.9246	52N	162E	19	838	06m32s
2231-Aug-28	13:35:31	332	84	2865	158	T	p-	-0.8505	1.0661	41S	53W	31	402	04m43s
2232-Jan-23	03:27:39	333	85	2870	125	P	-t	-1.3891	0.3001	63S	93W	0		
2232-Jul-18	22:04:56	334	85	2876	130	T	-t	0.9717	1.0229	72N	34W	13	348	01m14s
2233-Jan-11	08:49:17	335	85	2882	135	A	-p	-0.6447	0.9811	60S	70E	50	88	01m28s
2233-Jul-08	07:35:24	336	86	2888	140	A	nn	0.2215	0.9809	35N	72E	77	70	01m59s
2233-Dec-31	21:07:37	337	86	2894	145	T	n-	0.0649	1.0348	19S	136W	86	117	03m18s
2234-Jun-27	10:09:34	338	86	2900	150	A	p-	-0.5572	0.9468	10S	25E	56	235	07m18s
2234-Dec-21	12:46:02	339	86	2906	155	T	p-	0.7299	1.0403	23N	15W	43	197	03m42s
2235-May-17	21:36:41	340	87	2911	122	Pe	-t	1.4946	0.1044	69N	59E	0		



2235-Jun-16	11:00:35	340	87	2912	160	P	t-	-1.2990	0.4502	66S	8E	0		
2235-Nov-11	14:13:08	341	87	2917	127	P	-t	-1.3444	0.3682	70S	176E	0		
2235-Dec-11	03:02:34	341	87	2918	165	P	t-	1.4400	0.1914	67N	133E	0		
2236-May-06	07:11:02	342	87	2923	132	T	-p	0.6848	1.0269	59N	58E	46	126	01m59s
2236-Oct-30	19:15:14	343	88	2929	137	A	-p	-0.6779	0.9365	55S	127W	47	321	05m54s
2237-Apr-25	22:25:03	344	88	2935	142	T	nn	-0.0606	1.0669	10N	154W	87	219	06m05s
2237-Oct-19	19:06:03	345	88	2941	147	A	nn	0.0295	0.9316	9S	108W	88	256	09m07s
2238-Apr-15	15:01:45	346	88	2947	152	T	p-	-0.7772	1.0475	39S	28W	39	250	03m49s
2238-Oct-08	21:01:18	347	89	2953	157	A	p-	0.7459	0.9618	40N	120W	41	206	03m47s
2239-Mar-06	14:54:58	348	89	2958	124	P	-t	1.2541	0.5278	72N	111W	0		
2239-Aug-29	21:05:15	349	89	2964	129	P	-t	-1.1897	0.6529	71S	165E	0		
2239-Sep-28	06:09:01	349	89	2965	167	P	t-	1.4239	0.2160	72N	171E	0		
2240-Feb-23	17:14:11	350	90	2970	134	A	-p	0.5859	0.9228	25N	84W	54	356	09m41s
2240-Aug-18	13:52:24	351	90	2976	139	T	-p	-0.4522	1.0746	13S	32W	63	270	06m40s
2241-Feb-11	16:28:39	352	90	2982	144	A	nn	-0.1045	0.9292	20S	61W	84	267	09m04s
2241-Aug-08	05:59:21	353	90	2988	149	T	n-	0.2920	1.0457	33N	97E	73	159	04m02s
2242-Jan-31	20:12:58	354	91	2994	154	A	p-	-0.7894	0.9665	68S	97W	38	197	02m31s
2242-Jul-28	16:57:12	355	91	3000	159	P	t-	1.1020	0.8005	69N	84E	0		
2242-Dec-22	20:06:40	356	91	3005	126	P	-t	1.2836	0.4750	66N	108W	0		
2243-Jan-21	07:11:45	356	91	3006	164	P	t-	-1.4197	0.2239	69S	123W	0		
2243-Jun-18	05:49:56	357	92	3011	131	A	-t	-0.9342	0.9380	46S	104E	20	652	06m41s
2243-Dec-12	11:52:14	358	92	3017	136	T	-p	0.6284	1.0365	15N	8E	51	157	03m30s
2244-Jun-06	07:33:12	359	92	3023	141	Am	nn	-0.1581	0.9712	14N	70E	81	105	03m31s
2244-Dec-01	00:58:17	360	93	3029	146	A	nn	-0.0568	0.9955	25S	163E	87	16	00m27s
2245-May-26	15:42:04	361	93	3035	151	T	p-	0.6089	1.0201	57N	72W	52	86	01m30s
2245-Nov-20	07:29:36	362	93	3041	156	A	p-	-0.7954	0.9387	66S	26E	37	374	04m45s
2246-Apr-16	22:23:23	363	93	3046	123	P	-t	-1.2445	0.5498	62S	84W	0		
2246-May-16	06:14:10	363	93	3047	161	P	t-	1.3076	0.4285	63N	46W	0		
2246-Oct-10	14:13:18	364	94	3052	128	P	-t	1.4705	0.1615	61N	43E	0		
2246-Nov-09	07:47:02	364	94	3053	166	P	t-	-1.5082	0.1037	62S	65W	0		
2247-Apr-06	14:26:51	365	94	3058	133	T	-p	-0.5624	1.0372	24S	18W	56	149	03m07s
2247-Sep-29	18:01:05	366	94	3064	138	A	-p	0.6961	0.9801	36N	67W	46	96	01m47s
2248-Mar-26	01:56:01	368	95	3070	143	A	nn	0.1643	0.9829	11N	149E	80	61	01m41s

2248-Sep-18	05:13:07	369	95	3076	148	T	nn	-0.0738	1.0426	2S	100E	86	143	03m42s
2249-Mar-15	06:00:45	370	95	3082	153	A	p-	0.9149	0.9266	52N	48E	23	666	06m18s
2249-Sep-07	21:21:29	371	95	3088	158	T	p-	-0.7906	1.0656	39S	168W	38	343	04m42s
2250-Feb-02	11:34:06	372	96	3093	125	P	-t	-1.3969	0.2864	63S	137E	0		
2250-Jul-30	05:18:24	373	96	3099	130	P	-t	1.0490	0.9114	63N	126W	0		
2250-Aug-28	13:51:18	373	96	3100	168	Pb	t-	-1.5277	0.0121	62S	97W	0		
2251-Jan-22	17:21:41	374	96	3105	135	A	-p	-0.6481	0.9844	57S	54W	49	72	01m12s
2251-Jul-19	14:18:46	375	97	3111	140	A	-p	0.3062	0.9773	38N	25W	72	85	02m16s
2252-Jan-12	05:57:04	376	97	3117	145	T	n-	0.0607	1.0365	18S	93E	87	123	03m23s
2252-Jul-07	16:34:11	377	97	3123	150	A	p-	-0.4686	0.9473	5S	71W	62	218	07m10s
2252-Dec-31	21:37:06	378	98	3129	155	T	p-	0.7257	1.0389	23N	150W	43	189	03m33s
2253-Jun-26	17:36:11	379	98	3135	160	P	t-	-1.2138	0.5982	65S	101W	0		
2253-Nov-21	22:24:38	380	98	3140	127	P	-t	-1.3666	0.3297	69S	41E	0		
2253-Dec-21	11:39:39	380	98	3141	165	P	t-	1.4374	0.1973	66N	7W	0		
2254-May-17	14:43:39	381	98	3146	132	T	-p	0.7426	1.0315	67N	55W	42	160	02m09s
2254-Nov-11	02:55:16	382	99	3152	137	A	-p	-0.7087	0.9317	61S	118E	45	363	06m05s
2255-May-07	06:18:06	383	99	3158	142	T	nn	-0.0076	1.0706	16N	86E	90	230	06m22s
2255-Oct-31	02:32:03	385	99	3164	147	A	nn	-0.0088	0.9295	14S	139E	89	264	09m24s
2256-Apr-25	22:58:35	386	100	3170	152	T	p-	-0.7316	1.0495	32S	152W	43	240	04m14s
2256-Oct-19	04:37:31	387	100	3176	157	A	p-	0.7025	0.9624	33N	121E	45	190	03m59s
2257-Mar-16	22:51:29	388	100	3181	124	P	-t	1.2833	0.4770	72N	115E	0		
2257-Apr-15	12:05:15	388	100	3182	162	Pb	t-	-1.5121	0.0634	71S	59E	0		
2257-Sep-09	04:46:44	389	101	3187	129	P	-t	-1.2448	0.5480	72S	36E	0		
2257-Oct-08	14:01:32	389	101	3188	167	P	t-	1.3765	0.3035	72N	39E	0		
2258-Mar-06	00:58:23	390	101	3193	134	A	-p	0.6101	0.9239	30N	158E	52	358	09m04s
2258-Aug-29	21:33:04	391	101	3199	139	T	-p	-0.5161	1.0712	21S	150W	59	269	06m09s
2259-Feb-23	00:23:41	392	101	3205	144	A	nn	-0.0875	0.9326	15S	180W	85	253	08m36s
2259-Aug-19	13:22:17	393	102	3211	149	T	nn	0.2226	1.0412	25N	14W	77	141	03m49s
2260-Feb-12	04:34:24	394	102	3217	154	A	p-	-0.7776	0.9711	63S	139E	39	165	02m15s
2260-Aug-07	23:51:13	395	102	3223	159	P	t-	1.0287	0.9294	70N	32W	0		
2261-Jan-02	04:56:54	396	103	3228	126	P	-t	1.2873	0.4679	67N	109E	0		
2261-Jan-31	15:55:00	397	103	3229	164	P	t-	-1.4107	0.2398	70S	94E	0		
2261-Jun-28	12:16:27	398	103	3234	131	P	-t	-1.0198	0.9282	67S	5E	0		

2261-Dec-22	20:38:49	399	103	3240	136	T	-p	0.6360	1.0337	16N	125W	50	147	03m17s
2262-Jun-17	14:19:15	400	104	3246	141	A	nn	-0.2377	0.9750	10N	31W	76	92	03m08s
2262-Dec-12	09:25:02	401	104	3252	146	A	nn	-0.0460	0.9910	26S	38E	87	32	00m56s
2263-Jun-06	22:58:57	402	104	3258	151	T	p-	0.5366	1.0261	54N	174W	57	105	02m01s
2263-Dec-01	15:28:45	403	105	3264	156	A	p-	-0.7794	0.9349	69S	87W	38	388	05m06s
2264-Apr-27	06:21:41	404	105	3269	123	P	-t	-1.2931	0.4564	62S	148E	0		
2264-May-26	13:52:06	404	105	3270	161	P	t-	1.2430	0.5526	64N	169W	0		
2264-Oct-20	21:35:23	405	105	3275	128	P	-t	1.5111	0.0933	62N	77W	0		
2264-Nov-19	15:28:12	405	105	3276	166	P	t-	-1.4830	0.1465	63S	171E	0		
2265-Apr-16	22:26:19	406	105	3281	133	T	-p	-0.6073	1.0371	23S	138W	52	154	03m11s
2265-Oct-10	01:37:34	408	106	3287	138	A	-p	0.7405	0.9796	35N	179E	42	105	01m51s
2266-Apr-06	09:42:37	409	106	3293	143	Am	nn	0.1255	0.9829	13N	33E	83	61	01m42s
2266-Sep-29	13:03:56	410	106	3299	148	T	nn	-0.0233	1.0425	4S	17W	89	142	03m40s
2267-Mar-26	13:33:45	411	107	3305	153	A	p-	0.8810	0.9290	52N	65W	28	549	06m03s
2267-Sep-19	05:12:14	412	107	3311	158	T	p-	-0.7348	1.0642	39S	75E	42	304	04m34s
2268-Feb-13	19:39:31	413	107	3316	125	P	-t	-1.4059	0.2703	62S	7E	0		
2268-Aug-09	12:32:04	414	108	3322	130	P	-t	1.1254	0.7683	62N	117E	0		
2268-Sep-07	21:27:52	414	108	3323	168	P	t-	-1.4721	0.1194	61S	140E	0		
2269-Feb-02	01:53:05	415	108	3328	135	A	-p	-0.6529	0.9883	53S	179W	49	54	00m54s
2269-Jul-29	21:03:04	416	108	3334	140	A	-p	0.3893	0.9732	40N	122W	67	104	02m35s
2270-Jan-22	14:46:28	418	109	3340	145	T	n-	0.0560	1.0386	17S	38W	87	130	03m29s
2270-Jul-18	22:59:54	419	109	3346	150	A	p-	-0.3810	0.9474	1S	168W	68	208	06m57s
2271-Jan-12	06:28:08	420	109	3352	155	T	p-	0.7217	1.0379	23N	75E	44	182	03m25s
2271-Jul-08	00:13:01	421	110	3358	160	P	t-	-1.1284	0.7474	65S	150E	0		
2271-Dec-03	06:40:47	422	110	3363	127	P	-t	-1.3843	0.2996	68S	94W	0		
2272-Jan-01	20:17:51	422	110	3364	165	P	t-	1.4365	0.2000	65N	146W	0		
2272-May-27	22:11:12	423	110	3369	132	T	-p	0.8053	1.0353	75N	164W	36	202	02m14s
2272-Nov-21	10:42:52	424	110	3375	137	A	-p	-0.7327	0.9275	67S	5E	43	402	06m15s
2273-May-17	14:04:30	426	111	3381	142	Tm	nn	0.0515	1.0738	23N	31W	87	240	06m31s
2273-Nov-10	10:07:17	427	111	3387	147	A	nn	-0.0399	0.9278	20S	25E	88	272	09m34s
2274-May-07	06:47:37	428	111	3393	152	T	p-	-0.6799	1.0510	25S	87E	47	230	04m37s
2274-Oct-30	12:24:17	429	112	3399	157	A	p-	0.6666	0.9629	27N	2E	48	179	04m08s
2275-Mar-28	06:37:50	430	112	3404	124	P	-t	1.3200	0.4133	72N	15W	0		

2275-Apr-26	19:41:40	430	112	3405	162	P	t-	-1.4684	0.1424	71S	68W	0		
2275-Sep-20	12:34:54	431	112	3410	129	P	-t	-1.2949	0.4526	72S	95W	0		
2275-Oct-19	22:03:12	431	112	3411	167	P	t-	1.3358	0.3787	71N	95W	0		
2276-Mar-16	08:34:02	432	113	3416	134	A	-p	0.6411	0.9253	36N	41E	50	362	08m23s
2276-Sep-09	05:18:47	434	113	3422	139	T	-p	-0.5755	1.0671	29S	90E	55	266	05m33s
2277-Mar-05	08:11:55	435	113	3428	144	A	nn	-0.0645	0.9366	10S	63E	86	236	08m04s
2277-Aug-29	20:49:10	436	114	3434	149	T	nn	0.1572	1.0362	18N	128W	81	123	03m28s
2278-Feb-22	12:52:47	437	114	3440	154	A	p-	-0.7628	0.9762	57S	14E	40	131	01m54s
2278-Aug-19	06:46:22	438	114	3446	159	A	t-	0.9568	0.9712	76N	155E	16	367	01m53s
2279-Jan-13	13:49:06	439	115	3451	126	P	-t	1.2899	0.4630	68N	35W	0		
2279-Feb-12	00:37:05	440	115	3452	164	P	t-	-1.4003	0.2581	71S	49W	0		
2279-Jul-09	18:41:12	441	115	3457	131	P	-t	-1.1065	0.7802	68S	102W	0		
2280-Jan-03	05:28:11	442	115	3463	136	T	-p	0.6414	1.0314	17N	101E	50	138	03m04s
2280-Jun-27	21:03:20	443	116	3469	141	A	nn	-0.3198	0.9784	5N	132W	71	81	02m45s
2280-Dec-22	17:55:43	444	116	3475	146	A	nn	-0.0391	0.9870	26S	88W	88	46	01m23s
2281-Jun-17	06:14:41	445	116	3481	151	T	p-	0.4621	1.0316	51N	83E	62	121	02m32s
2281-Dec-11	23:31:24	447	117	3487	156	A	p-	-0.7667	0.9316	71S	163E	40	400	05m26s
2282-May-08	14:15:15	448	117	3492	123	P	-t	-1.3458	0.3545	63S	20E	0		
2282-Jun-06	21:28:19	448	117	3493	161	P	t-	1.1764	0.6815	65N	67E	0		
2282-Nov-01	05:06:24	449	117	3498	128	Pe	-t	1.5448	0.0370	62N	162E	0		
2282-Nov-30	23:15:22	449	117	3499	166	P	t-	-1.4624	0.1813	64S	45E	0		
2283-Apr-28	06:18:21	450	117	3504	133	T	-p	-0.6581	1.0366	24S	104E	49	160	03m13s
2283-Oct-21	09:23:10	451	118	3510	138	A	-p	0.7783	0.9790	35N	62E	39	116	01m56s
2284-Apr-16	17:19:22	452	118	3516	143	A	nn	0.0792	0.9827	15N	80W	85	61	01m45s
2284-Oct-09	21:03:48	454	118	3522	148	T	nn	0.0205	1.0420	6S	137W	89	140	03m39s
2285-Apr-05	20:55:22	455	119	3528	153	A	p-	0.8378	0.9315	53N	172W	33	459	05m50s
2285-Sep-29	13:11:37	456	119	3534	158	T	p-	-0.6859	1.0622	40S	44W	46	275	04m24s
2286-Feb-24	03:39:23	457	119	3539	125	P	-t	-1.4204	0.2448	62S	122W	0		
2286-Mar-25	20:37:47	457	119	3540	163	Pb	t-	1.5392	0.0473	61N	140E	0		
2286-Aug-20	19:48:22	458	120	3545	130	P	-t	1.1987	0.6322	62N	1W	0		
2286-Sep-19	05:10:03	458	120	3546	168	P	t-	-1.4214	0.2167	61S	16E	0		
2287-Feb-13	10:21:24	459	120	3551	135	A	-p	-0.6613	0.9926	49S	55E	48	34	00m35s
2287-Aug-10	03:47:41	461	120	3557	140	A	-p	0.4714	0.9686	41N	141E	62	127	02m56s

2288-Feb-02	23:33:46	462	121	3563	145	T	n-	0.0492	1.0412	14S	169W	87	138	03m39s
2288-Jul-29	05:25:23	463	121	3569	150	A	pn	-0.2929	0.9469	3N	97E	73	203	06m46s
2289-Jan-22	15:19:24	464	121	3575	155	T	p-	0.7181	1.0374	24N	60W	44	178	03m18s
2289-Jul-18	06:50:57	466	122	3581	160	P	t-	-1.0425	0.8980	64S	41E	0		
2289-Dec-13	15:01:17	467	122	3586	127	P	-t	-1.3979	0.2767	67S	130E	0		
2290-Jan-12	04:56:33	467	122	3587	165	P	t-	1.4365	0.2010	64N	75E	0		
2290-Jun-08	05:35:48	468	122	3592	132	T	-p	0.8713	1.0382	84N	100E	29	265	02m14s
2290-Dec-02	18:36:40	469	123	3598	137	A	-p	-0.7515	0.9237	71S	106W	41	439	06m23s
2291-May-28	21:45:28	470	123	3604	142	T	nn	0.1153	1.0764	28N	145W	83	249	06m34s
2291-Nov-21	17:50:53	472	123	3610	147	A	nn	-0.0644	0.9263	24S	90W	86	278	09m41s
2292-May-17	14:29:32	473	124	3616	152	T	p-	-0.6224	1.0521	19S	31W	51	220	04m57s
2292-Nov-09	20:20:06	474	124	3622	157	A	p-	0.6375	0.9635	22N	120W	50	171	04m14s
2293-Apr-07	14:14:54	475	124	3627	124	P	-t	1.3632	0.3380	72N	143W	0		
2293-May-07	03:09:46	475	124	3628	162	P	t-	-1.4186	0.2324	70S	168E	0		
2293-Sep-30	20:31:27	476	125	3633	129	P	-t	-1.3386	0.3697	72S	132E	0		
2293-Oct-30	06:13:45	477	125	3634	167	P	t-	1.3017	0.4416	71N	129E	0		
2294-Mar-27	16:02:22	478	125	3639	134	A	-p	0.6777	0.9269	43N	74W	47	370	07m42s
2294-Sep-20	13:09:57	479	125	3645	139	T	-p	-0.6300	1.0627	36S	31W	51	263	04m56s
2295-Mar-16	15:54:34	480	126	3651	144	A	nn	-0.0362	0.9409	4S	54W	88	219	07m29s
2295-Sep-10	04:20:19	481	126	3657	149	Tm	nn	0.0963	1.0307	10N	118E	84	104	03m01s
2296-Mar-04	21:04:45	483	126	3663	154	A	p-	-0.7417	0.9819	51S	111W	42	95	01m31s
2296-Aug-29	13:45:39	484	127	3669	159	A	p-	0.8888	0.9689	67N	14E	27	245	02m20s
2297-Jan-23	22:39:47	485	127	3674	126	P	-t	1.2940	0.4550	69N	179W	0		
2297-Feb-22	09:13:30	485	127	3675	164	P	t-	-1.3851	0.2854	71S	169E	0		
2297-Jul-20	01:07:46	486	127	3680	131	P	-t	-1.1916	0.6346	69S	151E	0		
2298-Jan-13	14:16:27	487	128	3686	136	T	-p	0.6474	1.0296	19N	33W	50	131	02m52s
2298-Jul-09	03:49:01	489	128	3692	141	A	-p	-0.4013	0.9811	1S	126E	66	73	02m23s
2299-Jan-03	02:27:42	490	128	3698	146	A	nn	-0.0341	0.9836	25S	146E	88	58	01m47s
2299-Jun-28	13:27:43	491	129	3704	151	T	p-	0.3846	1.0365	46N	20W	67	133	03m03s
2299-Dec-23	07:38:41	492	129	3710	156	A	p-	-0.7583	0.9288	72S	54E	40	412	05m45s
2300-May-19	22:00:39	494	129	3715	123	P	-t	-1.4049	0.2399	63S	105W	0		
2300-Jun-18	04:59:28	494	129	3716	161	P	t-	1.1056	0.8190	66N	55W	0		
2300-Dec-12	07:09:43	495	130	3722	166	P	t-	-1.4473	0.2068	65S	83W	0		

# 24TH CENTURY CE

In the 24th century CE the total number of solar eclipses will be 248 solar eclipses: 88 partial solar eclipses, 86 annular solar eclipses (86 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 66 total solar eclipses (65 central total solar eclipses with two limits, 1 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 8 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
GREATEST			S									°	km	
ECLIPSE														
2301-May-09	14:00:58	496	130	3727	133	T	-p	-0.7161	1.0354	26S	12W	44	168	03m10s
2301-Nov-01	17:19:33	497	130	3733	138	A	-p	0.8080	0.9786	35N	58W	36	126	02m01s
2302-Apr-29	00:47:19	499	131	3739	143	A	nn	0.0262	0.9825	16N	169E	88	62	01m49s
2302-Oct-22	05:11:15	500	131	3745	148	T	nn	0.0584	1.0413	8S	102E	87	139	03m38s
2303-Apr-18	04:09:26	501	131	3751	153	A	p-	0.7888	0.9341	54N	83E	38	393	05m38s
2303-Oct-11	21:17:24	502	132	3757	158	T	p-	-0.6424	1.0596	41S	164W	50	252	04m12s
2304-Mar-07	11:34:23	504	132	3762	125	P	-t	-1.4389	0.2118	61S	111E	0		
2304-Apr-06	04:00:21	504	132	3763	163	P	t-	1.4956	0.1190	61N	21E	0		
2304-Sep-01	03:07:40	505	132	3768	130	P	-t	1.2684	0.5038	61N	119W	0		
2304-Sep-30	12:58:17	505	132	3769	168	P	t-	-1.3760	0.3030	61S	110W	0		
2305-Feb-24	18:46:09	506	133	3774	135	A	-p	-0.6732	0.9973	46S	70W	47	13	00m13s
2305-Aug-21	10:35:44	507	133	3780	140	A	-p	0.5498	0.9637	41N	43E	56	155	03m21s
2306-Feb-14	08:17:48	509	133	3786	145	T	nn	0.0394	1.0441	11S	60E	88	147	03m49s
2306-Aug-10	11:55:09	510	134	3792	150	A	nn	-0.2083	0.9461	5N	0E	78	202	06m37s

2307-Feb-04	00:08:00	511	134	3798	155	T	p-	0.7125	1.0373	26N	166E	44	176	03m12s
2307-Jul-30	13:31:15	513	134	3804	160	A	t-	-0.9574	0.9602	50S	50W	16	500	03m37s
2307-Dec-25	23:24:22	514	135	3809	127	P	-t	-1.4089	0.2584	66S	6W	0		
2308-Jan-24	13:33:40	514	135	3810	165	P	t-	1.4358	0.2030	63N	64W	0		
2308-Jun-19	12:57:53	515	135	3815	132	T	-t	0.9402	1.0396	84N	120E	19	401	02m08s
2308-Dec-14	02:34:52	516	135	3821	137	A	-p	-0.7662	0.9207	73S	148E	40	470	06m31s
2309-Jun-09	05:21:55	518	136	3827	142	T	-n	0.1833	1.0783	34N	102E	79	257	06m30s
2309-Dec-03	01:42:04	519	136	3833	147	A	nn	-0.0833	0.9254	27S	154E	85	282	09m40s
2310-May-29	22:04:49	520	136	3839	152	T	p-	-0.5599	1.0526	12S	147W	56	210	05m10s
2310-Nov-22	04:24:19	522	137	3845	157	A	p-	0.6145	0.9642	18N	117E	52	164	04m16s
2311-Apr-19	21:41:48	523	137	3850	124	P	-t	1.4139	0.2499	71N	91E	0		
2311-May-19	10:28:45	523	137	3851	162	P	t-	-1.3620	0.3346	69S	46E	0		
2311-Oct-13	04:36:08	524	137	3856	129	P	-t	-1.3762	0.2985	72S	3W	0		
2311-Nov-11	14:33:19	524	137	3857	167	P	t-	1.2745	0.4920	70N	8W	0		
2312-Apr-07	23:19:32	525	138	3862	134	A	-p	0.7231	0.9286	51N	174E	43	385	07m00s
2312-Oct-01	21:08:25	527	138	3868	139	T	-p	-0.6783	1.0578	44S	154W	47	258	04m20s
2313-Mar-27	23:29:30	528	138	3874	144	A	nn	-0.0010	0.9457	3N	169W	90	200	06m49s
2313-Sep-21	11:57:00	529	139	3880	149	T	nn	0.0405	1.0249	3N	2E	88	85	02m30s
2314-Mar-17	05:11:54	531	139	3886	154	A	p-	-0.7159	0.9880	45S	124E	44	60	01m03s
2314-Sep-10	20:49:10	532	139	3892	159	A	p-	0.8247	0.9654	57N	104W	34	220	02m54s
2315-Feb-05	07:29:49	533	140	3897	126	P	-t	1.2991	0.4453	70N	37E	0		
2315-Mar-06	17:46:20	533	140	3898	164	P	t-	-1.3668	0.3188	72S	27E	0		
2315-Aug-01	07:34:31	534	140	3903	131	P	-t	-1.2761	0.4898	70S	42E	0		
2316-Jan-25	23:05:16	536	140	3909	136	T	-p	0.6527	1.0282	21N	167W	49	126	02m42s
2316-Jul-20	10:36:17	537	141	3915	141	A	-p	-0.4819	0.9834	8S	22E	61	67	02m02s
2317-Jan-14	10:59:37	538	141	3921	146	A	nn	-0.0298	0.9807	23S	20E	88	69	02m08s
2317-Jul-09	20:42:40	540	141	3927	151	T	p-	0.3078	1.0406	40N	126W	72	143	03m32s
2318-Jan-03	15:47:14	541	142	3933	156	A	p-	-0.7518	0.9265	72S	55W	41	422	06m02s
2318-May-31	05:42:33	542	142	3938	123	Pe	-t	-1.4670	0.1192	64S	130E	0		
2318-Jun-29	12:30:21	542	142	3939	161	P	t-	1.0340	0.9583	67N	178W	0		
2318-Dec-23	15:07:25	544	143	3945	166	P	t-	-1.4346	0.2280	66S	148E	0		
2319-May-20	21:37:22	545	143	3950	133	T	-p	-0.7786	1.0336	29S	127W	39	178	03m02s
2319-Nov-13	01:24:38	546	143	3956	138	A	-p	0.8314	0.9784	35N	179E	33	136	02m04s

2320-May-09	08:04:33	547	144	3962	143	A	nn	-0.0347	0.9820	16N	61E	88	64	01m56s
2320-Nov-01	13:28:18	549	144	3968	148	Tm	nn	0.0888	1.0406	10S	22W	85	137	03m38s
2321-Apr-28	11:12:58	550	144	3974	153	A	p-	0.7314	0.9367	54N	18W	43	341	05m30s
2321-Oct-22	05:31:17	552	145	3980	158	T	p-	-0.6059	1.0567	43S	74E	52	233	04m00s
2322-Mar-18	19:21:51	553	145	3985	125	P	-t	-1.4640	0.1671	61S	14W	0		
2322-Apr-17	11:14:22	553	145	3986	163	P	t-	1.4445	0.2041	62N	96W	0		
2322-Sep-12	10:32:06	554	145	3991	130	P	-t	1.3329	0.3865	61N	121E	0		
2322-Oct-11	20:53:38	554	145	3992	168	P	t-	-1.3371	0.3764	61S	123E	0		
2323-Mar-08	03:05:09	555	146	3997	135	H	-p	-0.6906	1.0023	42S	165E	46	11	00m11s
2323-Sep-01	17:26:08	557	146	4003	140	A	-p	0.6253	0.9584	42N	56W	51	191	03m48s
2324-Feb-25	16:57:31	558	146	4009	145	Tm	nn	0.0256	1.0475	8S	70W	89	158	04m02s
2324-Aug-20	18:28:21	559	147	4015	150	A	nn	-0.1260	0.9449	6N	97W	83	205	06m33s
2325-Feb-14	08:52:36	561	147	4021	155	T	p-	0.7038	1.0378	28N	33E	45	175	03m08s
2325-Aug-09	20:16:23	562	147	4027	160	A	t-	-0.8749	0.9648	40S	147W	29	256	03m24s
2326-Jan-05	07:49:42	563	148	4032	127	P	-t	-1.4177	0.2440	65S	142W	0		
2326-Feb-03	22:08:48	564	148	4033	165	P	t-	1.4339	0.2069	63N	158E	0		
2326-Jun-30	20:18:36	565	148	4038	132	P	-t	1.0107	0.9931	65N	36E	0		
2326-Dec-25	10:36:52	566	148	4044	137	A	-p	-0.7774	0.9182	74S	42E	39	496	06m39s
2327-Jun-20	12:55:00	567	149	4050	142	T	-n	0.2542	1.0795	38N	9W	75	265	06m21s
2327-Dec-14	09:39:46	569	149	4056	147	A	nn	-0.0969	0.9250	29S	36E	84	284	09m34s
2328-Jun-09	05:33:52	570	149	4062	152	T	p-	-0.4927	1.0524	7S	99E	60	199	05m16s
2328-Dec-02	12:36:37	572	150	4068	157	A	p-	0.5974	0.9652	15N	8W	53	157	04m13s
2329-Apr-30	04:59:57	573	150	4073	124	P	-t	1.4705	0.1514	71N	31W	0		
2329-May-29	17:41:08	573	150	4074	162	P	t-	-1.3008	0.4449	68S	73W	0		
2329-Oct-23	12:48:23	574	150	4079	129	P	-t	-1.4082	0.2383	71S	140W	0		
2329-Nov-21	22:59:19	574	151	4080	167	P	t-	1.2521	0.5334	69N	146W	0		
2330-Apr-19	06:29:24	576	151	4085	134	A	-p	0.7742	0.9302	59N	62E	39	412	06m19s
2330-Oct-13	05:13:41	577	151	4091	139	T	-p	-0.7208	1.0528	51S	81E	44	251	03m46s
2331-Apr-08	06:57:08	578	152	4097	144	A	nn	0.0408	0.9506	9N	78E	88	181	06m07s
2331-Oct-02	19:39:15	580	152	4103	149	T	nn	-0.0097	1.0188	4S	115W	89	64	01m55s
2332-Mar-27	13:11:33	581	152	4109	154	A	p-	-0.6831	0.9945	38S	1E	47	26	00m30s
2332-Sep-21	03:59:09	582	153	4115	159	A	p-	0.7666	0.9613	48N	141E	40	216	03m34s
2333-Feb-15	16:14:19	584	153	4120	126	P	-t	1.3087	0.4270	71N	107W	0		



2333-Mar-17	02:10:52	584	153	4121	164	P	t-	-1.3417	0.3652	72S	113W	0					
2333-Aug-11	14:06:47	585	153	4126	131	P	-t	-1.3558	0.3534	70S	68W	0					
2333-Sep-10	05:41:59	585	153	4127	169	Pb	t-	1.5299	0.0592	72N	158W	0					
2334-Feb-05	07:50:29	586	154	4132	136	T	-p	0.6603	1.0272	25N	60E	49	123	02m33s			
2334-Jul-31	17:26:33	588	154	4138	141	A	-p	-0.5608	0.9851	16S	83W	56	64	01m45s			
2335-Jan-25	19:29:43	589	154	4144	146	A	nn	-0.0247	0.9784	21S	107W	88	77	02m25s			
2335-Jul-21	03:57:48	591	155	4150	151	T	n-	0.2306	1.0440	34N	126E	76	151	03m58s			
2336-Jan-14	23:56:41	592	155	4156	156	A	p-	-0.7462	0.9250	70S	166W	41	427	06m18s			
2336-Jul-09	19:58:21	593	156	4162	161	T	t-	0.9598	1.0657	83N	48E	16	799	03m18s			
2337-Jan-02	23:09:43	595	156	4168	166	P	t-	-1.4251	0.2435	67S	17E	0					
2337-May-31	05:05:56	596	156	4173	133	T	-t	-0.8470	1.0309	35S	120E	32	195	02m46s			
2337-Nov-23	09:37:55	597	157	4179	138	A	-p	0.8488	0.9786	35N	53E	32	142	02m05s			
2338-May-20	15:14:19	599	157	4185	143	A	nn	-0.1011	0.9812	15N	45W	84	67	02m07s			
2338-Nov-12	21:52:53	600	157	4191	148	T	nn	0.1132	1.0399	12S	147W	84	134	03m38s			
2339-May-09	18:08:03	602	158	4197	153	A	p-	0.6672	0.9392	55N	116W	48	300	05m24s			
2339-Nov-02	13:51:49	603	158	4203	158	T	p-	-0.5751	1.0536	46S	49W	55	215	03m47s			
2340-Mar-29	03:03:37	604	158	4208	125	P	-t	-1.4941	0.1131	61S	138W	0					
2340-Apr-27	18:21:32	605	158	4209	163	P	t-	1.3873	0.3006	62N	149E	0					
2340-Sep-22	18:01:33	606	159	4214	130	P	-t	1.3925	0.2793	61N	0E	0					
2340-Oct-22	04:55:28	606	159	4215	168	P	t-	-1.3037	0.4387	62S	6W	0					
2341-Mar-18	11:18:19	607	159	4220	135	H	-p	-0.7137	1.0075	40S	42E	44	36	00m36s			
2341-Sep-12	00:22:46	609	159	4226	140	A	-p	0.6950	0.9529	42N	157W	46	234	04m19s			
2342-Mar-08	01:32:13	610	160	4232	145	T	nn	0.0072	1.0511	5S	162E	90	169	04m16s			
2342-Sep-01	01:06:54	612	160	4238	150	A	nn	-0.0480	0.9434	6N	165E	87	209	06m34s			
2343-Feb-25	17:32:17	613	161	4244	155	T	p-	0.6913	1.0385	30N	99W	46	175	03m06s			
2343-Aug-21	03:07:04	614	161	4250	160	A	p-	-0.7956	0.9679	35S	112E	37	186	03m09s			
2344-Jan-16	16:13:40	616	161	4255	127	P	-t	-1.4270	0.2288	64S	83E	0					
2344-Feb-15	06:37:57	616	161	4256	165	P	t-	1.4280	0.2179	62N	22E	0					
2344-Jul-11	03:39:14	617	162	4261	132	P	-t	1.0818	0.8591	64N	83W	0					
2344-Aug-09	11:59:04	617	162	4262	170	Pb	t-	-1.4974	0.0789	62S	53W	0					
2345-Jan-04	18:40:23	618	162	4267	137	A	-p	-0.7872	0.9165	72S	66W	38	517	06m45s			
2345-Jun-30	20:26:17	620	162	4273	142	T	-n	0.3267	1.0797	42N	119W	71	272	06m07s			
2345-Dec-24	17:41:04	621	163	4279	147	Am	nn	-0.1082	0.9252	30S	82W	84	284	09m21s			

2346-Jun-20	12:58:43	623	163	4285	152	T	p-	-0.4224	1.0515	2S	14W	65	188	05m12s
2346-Dec-13	20:55:35	624	163	4291	157	A	p-	0.5848	0.9665	13N	134W	54	149	04m04s
2347-May-11	12:07:07	625	164	4296	124	Pe	-t	1.5351	0.0391	70N	150W	0		
2347-Jun-10	00:44:41	626	164	4297	162	P	t-	-1.2329	0.5671	67S	170E	0		
2347-Nov-03	21:09:18	627	164	4302	129	P	-t	-1.4337	0.1903	70S	82E	0		
2347-Dec-03	07:33:33	627	164	4303	167	P	t-	1.2358	0.5635	68N	74E	0		
2348-Apr-29	13:29:00	628	165	4308	134	A	-p	0.8338	0.9315	68N	50W	33	466	05m40s
2348-Oct-23	13:26:55	630	165	4314	139	T	-p	-0.7564	1.0476	58S	45W	41	242	03m14s
2349-Apr-18	14:16:51	631	165	4320	144	A	nn	0.0900	0.9557	16N	33W	85	162	05m23s
2349-Oct-13	03:28:53	633	166	4326	149	H	nn	-0.0532	1.0126	11S	126E	87	43	01m18s
2350-Apr-07	21:06:02	634	166	4332	154	H	p-	-0.6452	1.0011	32S	121W	50	5	00m06s
2350-Oct-02	11:14:07	636	166	4338	159	A	p-	0.7131	0.9568	40N	28E	44	222	04m21s
2351-Feb-27	00:56:11	637	167	4343	126	P	-t	1.3209	0.4037	72N	109E	0		
2351-Mar-28	10:30:56	637	167	4344	164	P	t-	-1.3126	0.4196	72S	108E	0		
2351-Aug-22	20:42:46	638	167	4349	131	P	-t	-1.4322	0.2228	71S	180W	0		
2351-Sep-21	12:33:26	639	167	4350	169	P	t-	1.4664	0.1681	72N	85E	0		
2352-Feb-16	16:32:05	640	167	4355	136	T	-p	0.6709	1.0266	28N	73W	48	121	02m25s
2352-Aug-11	00:21:34	641	168	4361	141	A	-p	-0.6366	0.9862	24S	170E	50	63	01m32s
2353-Feb-05	03:56:54	643	168	4367	146	A	nn	-0.0179	0.9766	17S	127E	89	84	02m38s
2353-Jul-31	11:17:05	644	169	4373	151	T	n-	0.1559	1.0467	27N	17E	81	158	04m20s
2354-Jan-25	08:03:20	646	169	4379	156	A	p-	-0.7388	0.9240	66S	80E	42	427	06m35s
2354-Jul-21	03:28:21	647	169	4385	161	T	t-	0.8870	1.0697	81N	171E	27	499	03m51s
2355-Jan-14	07:12:19	649	170	4391	166	P	t-	-1.4157	0.2589	68S	114W	0		
2355-Jun-11	12:28:17	650	170	4396	133	T	-t	-0.9196	1.0269	43S	8E	23	233	02m18s
2355-Dec-04	17:58:36	651	170	4402	138	A	-p	0.8609	0.9792	36N	75W	30	145	02m02s
2356-May-30	22:15:18	653	171	4408	143	A	nn	-0.1735	0.9800	12N	149W	80	72	02m21s
2356-Nov-23	06:24:55	654	171	4414	148	T	-n	0.1317	1.0394	13S	85E	83	133	03m40s
2357-May-20	00:54:22	656	172	4420	153	A	p-	0.5960	0.9415	54N	150E	53	269	05m24s
2357-Nov-12	22:20:22	657	172	4426	158	T	p-	-0.5514	1.0505	48S	174W	56	200	03m35s
2358-Apr-09	10:37:39	659	172	4431	125	Pe	-t	-1.5309	0.0467	61S	100E	0		
2358-May-09	01:21:14	659	172	4432	163	P	t-	1.3230	0.4098	63N	35E	0		
2358-Oct-04	01:36:38	660	173	4437	130	P	-t	1.4465	0.1835	61N	122W	0		
2358-Nov-02	13:03:59	660	173	4438	168	P	t-	-1.2765	0.4890	62S	137W	0		

2359-Mar-29	19:24:46	662	173	4443	135	T	-p	-0.7430	1.0129	38S	80W	42	65	01m02s
2359-Sep-23	07:24:41	663	173	4449	140	A	-p	0.7595	0.9471	42N	100E	40	291	04m53s
2360-Mar-18	09:59:21	665	174	4455	145	T	nn	-0.0177	1.0549	2S	35E	89	181	04m33s
2360-Sep-11	07:52:24	666	174	4461	150	Am	nn	0.0244	0.9415	6N	65E	89	217	06m41s
2361-Mar-08	02:05:55	668	175	4467	155	T	p-	0.6743	1.0396	32N	132E	47	176	03m06s
2361-Aug-31	10:04:30	669	175	4473	160	A	p-	-0.7211	0.9701	32S	9E	44	151	02m54s
2362-Jan-27	00:35:59	670	175	4478	127	P	-t	-1.4368	0.2125	63S	52W	0		
2362-Feb-25	15:02:02	671	175	4479	165	P	t-	1.4189	0.2345	62N	112W	0		
2362-Jul-22	11:01:14	672	176	4484	132	P	-t	1.1522	0.7255	64N	157E	0		
2362-Aug-20	19:18:10	672	176	4485	170	P	t-	-1.4239	0.2149	62S	172W	0		
2363-Jan-16	02:45:06	673	176	4490	137	A	-p	-0.7955	0.9154	69S	179W	37	532	06m52s
2363-Jul-12	03:55:03	675	176	4496	142	T	-p	0.4012	1.0792	45N	133E	66	279	05m51s
2364-Jan-05	01:46:48	676	177	4502	147	A	nn	-0.1161	0.9259	29S	159E	83	281	09m03s
2364-Jun-30	20:19:47	678	177	4508	152	T	n-	-0.3493	1.0499	3N	124W	70	176	05m00s
2364-Dec-24	05:18:58	679	178	4514	157	A	p-	0.5752	0.9683	12N	99E	55	139	03m48s
2365-Jun-20	07:44:13	681	178	4520	162	P	t-	-1.1623	0.6935	66S	55E	0		
2365-Nov-14	05:37:33	682	178	4525	129	P	-t	-1.4540	0.1526	70S	57W	0		
2365-Dec-13	16:12:41	683	178	4526	167	P	t-	1.2230	0.5873	67N	67W	0		
2366-May-10	20:22:07	684	179	4531	134	A	-t	0.8981	0.9323	78N	171W	26	583	05m03s
2366-Nov-03	21:46:04	685	179	4537	139	T	-p	-0.7868	1.0426	65S	171W	38	231	02m46s
2367-Apr-29	21:30:02	687	179	4543	144	Am	nn	0.1451	0.9607	23N	142W	82	144	04m38s
2367-Oct-24	11:25:03	688	180	4549	149	H	nn	-0.0902	1.0065	17S	6E	85	22	00m40s
2368-Apr-18	04:51:37	690	180	4555	154	H	p-	-0.5992	1.0079	25S	120E	53	34	00m47s
2368-Oct-12	18:37:19	691	181	4561	159	A	p-	0.6672	0.9522	33N	87W	48	233	05m13s
2369-Mar-09	09:30:23	693	181	4566	126	P	-t	1.3392	0.3686	72N	33W	0		
2369-Apr-07	18:42:10	693	181	4567	164	P	t-	-1.2763	0.4881	72S	29W	0		
2369-Sep-02	03:25:55	694	181	4572	131	Pe	-t	-1.5027	0.1025	72S	66E	0		
2369-Oct-01	19:33:30	695	181	4573	169	P	t-	1.4094	0.2652	72N	34W	0		
2370-Feb-27	01:07:02	696	182	4578	136	T	-p	0.6865	1.0262	33N	156E	46	122	02m17s
2370-Aug-22	07:22:20	697	182	4584	141	A	-p	-0.7082	0.9867	32S	61E	45	66	01m22s
2371-Feb-16	12:18:48	699	182	4590	146	A	nn	-0.0075	0.9753	13S	2E	89	88	02m48s
2371-Aug-11	18:38:03	700	183	4596	151	T	nn	0.0820	1.0487	20N	94W	85	162	04m36s
2372-Feb-05	16:07:47	702	183	4602	156	A	p-	-0.7301	0.9237	62S	38W	43	422	06m50s

2372-Jul-31	10:58:29	704	184	4608	161	T	p-	0.8144	1.0717	71N	44E	35	404	04m18s
2373-Jan-24	15:14:58	705	184	4614	166	P	t-	-1.4062	0.2742	69S	113E	0		
2373-Jun-21	19:45:28	706	184	4619	133	Ts	-t	-0.9954	1.0191	63S	101W	3	-	01m24s
2373-Dec-15	02:25:54	708	185	4625	138	A	-p	0.8678	0.9803	37N	154E	29	141	01m56s
2374-Jun-11	05:09:55	709	185	4631	143	A	-p	-0.2505	0.9784	9N	108E	76	79	02m39s
2374-Dec-04	15:02:55	711	185	4637	148	T	-n	0.1455	1.0390	14S	43W	82	132	03m42s
2375-May-31	07:34:33	713	186	4643	153	A	p-	0.5200	0.9436	52N	57E	58	243	05m26s
2375-Nov-24	06:54:53	714	186	4649	158	T	p-	-0.5327	1.0474	51S	61E	58	186	03m23s
2376-May-19	08:14:43	716	187	4655	163	P	t-	1.2528	0.5304	63N	77W	0		
2376-Oct-14	09:18:27	717	187	4660	130	P	-t	1.4941	0.1003	61N	114E	0		
2376-Nov-12	21:19:05	717	187	4661	168	P	t-	-1.2551	0.5280	63S	90E	0		
2377-Apr-09	03:25:10	719	187	4666	135	T	-p	-0.7780	1.0180	37S	159E	39	96	01m28s
2377-Oct-03	14:33:16	720	188	4672	140	A	-p	0.8178	0.9413	43N	6W	35	366	05m29s
2378-Mar-29	18:20:22	722	188	4678	145	T	nn	-0.0480	1.0587	1N	90W	87	193	04m51s
2378-Sep-22	14:45:47	723	189	4684	150	A	nn	0.0904	0.9396	5N	38W	85	225	06m54s
2379-Mar-19	10:31:46	725	189	4690	155	T	p-	0.6511	1.0409	34N	5E	49	177	03m07s
2379-Sep-11	17:09:31	726	189	4696	160	A	p-	-0.6517	0.9717	31S	96W	49	130	02m42s
2380-Feb-07	08:54:00	728	190	4701	127	P	-t	-1.4496	0.1909	62S	175E	0		
2380-Mar-07	23:17:51	728	190	4702	165	P	t-	1.4038	0.2616	61N	115E	0		
2380-Aug-01	18:26:16	729	190	4707	132	P	-t	1.2208	0.5949	63N	37E	0		
2380-Aug-31	02:44:38	730	190	4708	170	P	t-	-1.3552	0.3423	61S	68E	0		
2381-Jan-26	10:46:37	731	190	4713	137	A	-p	-0.8064	0.9149	65S	66E	36	546	06m57s
2381-Jul-22	11:25:01	733	191	4719	142	T	-p	0.4749	1.0777	47N	26E	61	285	05m32s
2382-Jan-15	09:53:21	734	191	4725	147	A	nn	-0.1242	0.9274	28S	39E	83	275	08m40s
2382-Jul-12	03:37:51	736	192	4731	152	T	n-	-0.2743	1.0475	6N	126E	74	164	04m41s
2383-Jan-04	13:46:25	737	192	4737	157	A	p-	0.5682	0.9706	11N	29W	55	127	03m26s
2383-Jul-01	14:37:41	739	192	4743	162	P	t-	-1.0870	0.8276	65S	59W	0		
2383-Nov-25	14:13:31	740	193	4748	129	P	-t	-1.4683	0.1260	69S	162E	0		
2383-Dec-25	00:57:03	740	193	4749	167	P	t-	1.2144	0.6034	66N	152E	0		
2384-May-21	03:05:25	742	193	4754	134	A	-t	0.9702	0.9317	81N	2W	13	1116	04m28s
2384-Nov-14	06:13:19	743	194	4760	139	T	-p	-0.8102	1.0377	71S	62E	36	217	02m22s
2385-May-10	04:36:48	745	194	4766	144	A	nn	0.2063	0.9657	30N	111E	78	126	03m53s
2385-Nov-03	19:27:29	747	194	4772	149	H	-n	-0.1212	1.0004	22S	115W	83	2	00m03s

2386-Apr-29	12:32:24	748	195	4778	154	H2	p-	-0.5483	1.0147	18S	2E	57	60	01m30s
2386-Oct-24	02:06:43	750	195	4784	159	A	p-	0.6267	0.9475	26N	158E	51	246	06m09s
2387-Mar-20	17:59:08	751	195	4789	126	P	-t	1.3624	0.3241	72N	174W	0		
2387-Apr-19	02:47:05	751	196	4790	164	P	t-	-1.2345	0.5678	71S	164W	0		
2387-Oct-13	02:41:03	753	196	4796	169	P	t-	1.3579	0.3524	72N	154W	0		
2388-Mar-09	09:36:20	754	196	4801	136	T	-p	0.7065	1.0260	38N	26E	45	124	02m10s
2388-Sep-01	14:30:25	756	197	4807	141	A	-p	-0.7744	0.9867	41S	51W	39	73	01m15s
2389-Feb-26	20:33:51	758	197	4813	146	A	nn	0.0078	0.9744	8S	122W	90	92	02m55s
2389-Aug-22	02:05:53	759	197	4819	151	T	nn	0.0133	1.0500	13N	153E	89	166	04m45s
2390-Feb-16	00:06:58	761	198	4825	156	A	p-	-0.7177	0.9239	56S	157W	44	411	07m06s
2390-Aug-11	18:31:26	762	198	4831	161	T	p-	0.7440	1.0724	61N	74W	42	353	04m41s
2391-Feb-04	23:15:05	764	199	4837	166	P	t-	-1.3944	0.2934	70S	19W	0		
2391-Jul-03	02:58:52	765	199	4842	133	P	-t	-1.0732	0.8664	67S	142E	0		
2391-Aug-01	11:14:31	766	199	4843	171	Pb	t-	1.4924	0.0767	70N	167E	0		
2391-Dec-26	10:57:14	767	199	4848	138	A	-p	0.8724	0.9820	38N	23E	29	131	01m46s
2392-Jun-21	11:57:57	769	200	4854	143	A	-p	-0.3319	0.9762	4N	6E	71	90	03m02s
2392-Dec-14	23:46:26	770	200	4860	148	T	-n	0.1550	1.0391	14S	173W	81	133	03m46s
2393-Jun-10	14:08:40	772	201	4866	153	A	p-	0.4389	0.9453	49N	36W	64	224	05m34s
2393-Dec-04	15:34:35	774	201	4872	158	T	p-	-0.5188	1.0445	53S	64W	59	174	03m13s
2394-May-30	15:03:02	775	201	4878	163	P	t-	1.1775	0.6610	64N	172E	0		
2394-Oct-25	17:07:12	777	202	4883	130	Pe	-t	1.5351	0.0298	62N	11W	0		
2394-Nov-24	05:40:35	777	202	4884	168	P	t-	-1.2398	0.5556	64S	44W	0		
2395-Apr-20	11:17:14	778	202	4889	135	T	-p	-0.8204	1.0230	38S	41E	35	134	01m52s
2395-Oct-14	21:49:15	780	203	4895	140	A	-p	0.8691	0.9354	44N	113W	29	471	06m07s
2396-Apr-09	02:33:16	781	203	4901	145	T	nn	-0.0851	1.0625	3N	148E	85	206	05m12s
2396-Oct-02	21:48:06	783	203	4907	150	A	nn	0.1494	0.9375	4N	142W	81	234	07m12s
2397-Mar-29	18:49:51	785	204	4913	155	T	p-	0.6221	1.0423	37N	120W	51	178	03m11s
2397-Sep-22	00:23:54	786	204	4919	160	A	p-	-0.5891	0.9728	31S	156E	54	118	02m34s
2398-Feb-17	17:08:13	788	204	4924	127	P	-t	-1.4648	0.1650	62S	42E	0		
2398-Mar-19	07:27:07	788	205	4925	165	P	t-	1.3843	0.2966	61N	15W	0		
2398-Aug-13	01:53:36	789	205	4930	132	P	-t	1.2878	0.4668	62N	84W	0		
2398-Sep-11	10:16:33	790	205	4931	170	P	t-	-1.2902	0.4633	61S	53W	0		
2399-Feb-06	18:46:43	791	205	4936	137	A	-p	-0.8180	0.9150	62S	52W	35	557	07m01s

2399-Aug-02	18:55:13	793	206	4942	142	T	-p	0.5482	1.0754	48N	81W	57	291	05m14s
2400-Jan-26	18:00:09	794	206	4948	147	A	nn	-0.1322	0.9295	26S	81W	82	267	08m13s
2400-Jul-22	10:54:47	796	207	4954	152	T	nn	-0.1992	1.0444	9N	18E	79	151	04m17s

25TH CENTURY CE

In the 25th century CE the total number of solar eclipses will be 237 solar eclipses: 81 partial solar eclipses, 89 annular solar eclipses (86 central annular solar eclipses with two limits, 1 central annular solar eclipses with one limit, 2 non-central annular solar eclipses with one limit), 66 total solar eclipses (65 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 1 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
2401-Jan-14	22:15:19	798	207	4960	157	A	p-	0.5617	0.9735	12N	158W	56	114	03m00s
2401-Jul-11	21:29:19	799	207	4966	162	P	t-	-1.0110	0.9620	64S	171W	0		
2401-Dec-05	22:53:36	801	208	4971	129	P	-t	-1.4797	0.1049	68S	21E	0		
2402-Jan-04	09:42:27	801	208	4972	167	P	t-	1.2063	0.6185	65N	11E	0		
2402-Jun-01	09:44:37	802	208	4977	134	P	-t	1.0452	0.8834	68N	137W	0		
2402-Nov-25	14:45:40	804	208	4983	139	T	-p	-0.8292	1.0332	76S	61W	34	202	02m02s
2403-May-21	11:36:54	806	209	4989	144	A	nn	0.2737	0.9705	36N	6E	74	110	03m10s
2403-Nov-15	03:36:24	807	209	4995	149	A	-n	-0.1461	0.9947	27S	124E	81	19	00m33s
2404-May-09	20:05:44	809	210	5001	154	T	p-	-0.4901	1.0212	11S	114W	61	83	02m14s
2404-Nov-03	09:44:07	811	210	5007	159	A	p-	0.5934	0.9430	21N	41E	53	260	07m05s

2405-Mar-31	02:18:51	812	210	5012	126	P	-t	1.3929	0.2654	72N	47E	0		
2405-Apr-29	10:43:54	812	211	5013	164	P	t-	-1.1858	0.6613	71S	64E	0		
2405-Oct-23	09:58:54	814	211	5019	169	P	t-	1.3141	0.4262	71N	83E	0		
2406-Mar-20	17:57:22	815	211	5024	136	T	-p	0.7327	1.0258	45N	102W	43	128	02m03s
2406-Sep-12	21:45:22	817	212	5030	141	A	-p	-0.8356	0.9862	50S	167W	33	88	01m11s
2407-Mar-10	04:41:40	819	212	5036	146	A	nn	0.0283	0.9739	3S	115E	88	93	02m59s
2407-Sep-02	09:38:24	820	213	5042	151	T	nn	-0.0518	1.0506	5N	38E	87	168	04m48s
2408-Feb-27	07:59:39	822	213	5048	156	A	p-	-0.7004	0.9249	51S	84E	45	394	07m22s
2408-Aug-22	02:07:38	824	213	5054	161	T	p-	0.6766	1.0720	52N	169E	47	317	05m00s
2409-Feb-15	07:12:29	826	214	5060	166	P	t-	-1.3802	0.3164	71S	151W	0		
2409-Jul-13	10:09:33	827	214	5065	133	P	-t	-1.1523	0.7186	68S	24E	0		
2409-Aug-11	18:38:30	827	214	5066	171	P	t-	1.4271	0.2022	70N	44E	0		
2410-Jan-05	19:31:38	829	215	5071	138	A	-p	0.8749	0.9842	39N	109W	29	116	01m31s
2410-Jul-02	18:42:29	830	215	5077	143	A	-p	-0.4152	0.9735	2S	95W	65	104	03m25s
2410-Dec-26	08:33:57	832	215	5083	148	T	-n	0.1614	1.0395	14S	56E	81	134	03m50s
2411-Jun-21	20:37:43	834	216	5089	153	A	pn	0.3537	0.9467	44N	128W	69	210	05m46s
2411-Dec-16	00:19:06	835	216	5095	158	T	p-	-0.5093	1.0419	54S	170E	59	163	03m04s
2412-Jun-09	21:48:03	837	217	5101	163	P	t-	1.0987	0.7984	65N	61E	0		
2412-Dec-04	14:06:30	839	217	5107	168	P	t-	-1.2288	0.5751	64S	180W	0		
2413-Apr-30	19:03:56	840	217	5112	135	T	-p	-0.8677	1.0274	40S	76W	30	183	02m13s
2413-Oct-25	05:13:19	842	218	5118	140	A	-p	0.9130	0.9298	46N	136E	24	628	06m43s
2414-Apr-20	10:39:38	844	218	5124	145	T	-n	-0.1279	1.0661	5N	27E	83	218	05m33s
2414-Oct-14	04:58:49	845	219	5130	150	A	nn	0.2016	0.9355	2N	111E	78	245	07m34s
2415-Apr-10	02:59:34	847	219	5136	155	T	p-	0.5866	1.0437	39N	119E	54	178	03m16s
2415-Oct-03	07:47:47	849	219	5142	160	A	p-	-0.5334	0.9736	32S	46E	58	110	02m27s
2416-Feb-29	01:13:31	850	220	5147	127	P	-t	-1.4865	0.1279	61S	87W	0		
2416-Mar-29	15:24:53	851	220	5148	165	P	t-	1.3563	0.3467	61N	143W	0		
2416-Aug-23	09:26:37	852	220	5153	132	P	-t	1.3505	0.3467	62N	154E	0		
2416-Sep-21	17:57:50	852	220	5154	170	P	t-	-1.2320	0.5716	61S	177W	0		
2417-Feb-17	02:40:41	854	221	5159	137	A	-p	-0.8345	0.9155	58S	169W	33	574	07m04s
2417-Aug-13	02:28:05	855	221	5165	142	T	-p	0.6190	1.0723	48N	170E	52	297	04m55s
2418-Feb-06	02:04:03	857	221	5171	147	A	nn	-0.1431	0.9322	23S	159E	82	256	07m43s
2418-Aug-02	18:11:10	859	222	5177	152	T	nn	-0.1242	1.0406	11N	90W	83	137	03m50s

2419-Jan-26	06:44:36	861	222	5183	157	A	p-	0.5549	0.9770	13N	74E	56	97	02m30s
2419-Jul-23	04:16:44	862	223	5189	162	A	t-	-0.9321	0.9754	46S	97E	21	242	02m17s
2419-Dec-17	07:40:06	864	223	5194	129	P	-t	-1.4865	0.0925	67S	121W	0		
2420-Jan-15	18:30:38	864	223	5195	167	P	t-	1.2004	0.6299	64N	130W	0		
2420-Jun-11	16:17:01	865	223	5200	134	P	-t	1.1257	0.7469	67N	114E	0		
2420-Dec-05	23:23:51	867	224	5206	139	T	-p	-0.8431	1.0291	80S	175W	32	185	01m44s
2421-May-31	18:32:58	869	224	5212	144	A	-p	0.3452	0.9750	42N	96W	70	95	02m32s
2421-Nov-25	11:51:40	871	225	5218	149	A	-n	-0.1652	0.9893	30S	1E	80	38	01m06s
2422-May-21	03:34:50	872	225	5224	154	T	p-	-0.4278	1.0275	5S	132E	65	103	02m56s
2422-Nov-14	17:27:39	874	226	5230	159	A	p-	0.5657	0.9386	16N	77W	55	275	08m01s
2423-Apr-11	10:32:40	876	226	5235	126	P	-t	1.4283	0.1970	72N	90W	0		
2423-May-10	18:35:16	876	226	5236	164	P	t-	-1.1323	0.7648	70S	66W	0		
2423-Nov-03	17:24:50	878	226	5242	169	P	t-	1.2769	0.4888	71N	42W	0		
2424-Mar-31	02:10:09	879	227	5247	136	T	-p	0.7652	1.0254	51N	131E	40	133	01m55s
2424-Sep-23	05:09:45	881	227	5253	141	A	-p	-0.8896	0.9853	59S	73E	27	114	01m08s
2425-Mar-20	12:41:11	883	228	5259	146	A	nn	0.0546	0.9735	3N	6W	87	95	03m02s
2425-Sep-12	17:18:07	884	228	5265	151	Tm	nn	-0.1114	1.0507	2S	79W	84	169	04m47s
2426-Mar-09	15:44:44	886	228	5271	156	A	p-	-0.6773	0.9262	45S	34W	47	374	07m38s
2426-Sep-02	09:48:46	888	229	5277	161	T	p-	0.6133	1.0709	44N	51E	52	291	05m14s
2427-Feb-26	15:03:44	890	229	5283	166	P	t-	-1.3606	0.3485	72S	78E	0		
2427-Jul-24	17:18:10	891	230	5288	133	P	-t	-1.2318	0.5708	69S	95W	0		
2427-Aug-23	02:04:50	891	230	5289	171	P	t-	1.3642	0.3223	71N	80W	0		
2428-Jan-17	04:07:20	893	230	5294	138	A	-p	0.8770	0.9870	41N	118E	28	96	01m13s
2428-Jul-13	01:23:54	895	231	5300	143	A	-p	-0.4999	0.9703	8S	163E	60	123	03m50s
2429-Jan-05	17:22:55	896	231	5306	148	T	-n	0.1666	1.0404	13S	76W	80	137	03m56s
2429-Jul-02	03:04:29	898	231	5312	153	A	pn	0.2668	0.9476	39N	139E	74	200	06m01s
2429-Dec-26	09:07:19	900	232	5318	158	T	n-	-0.5035	1.0397	54S	44E	60	155	02m57s
2430-Jun-21	04:29:26	902	232	5324	163	P	t-	1.0160	0.9439	66N	49W	0		
2430-Dec-15	22:37:28	903	233	5330	168	P	t-	-1.2227	0.5858	65S	43E	0		
2431-May-12	02:43:29	905	233	5335	135	T	-p	-0.9214	1.0310	45S	169E	22	268	02m27s
2431-Nov-05	12:45:39	907	233	5341	140	A	-t	0.9497	0.9242	50N	23E	18	902	07m15s
2432-Apr-30	18:37:30	909	234	5347	145	T	-n	-0.1780	1.0694	6N	92W	80	229	05m56s
2432-Oct-24	12:19:57	910	234	5353	150	A	nn	0.2455	0.9335	1N	1E	76	255	08m01s



2433-Apr-20	11:01:31	912	235	5359	155	T	p-	0.5450	1.0449	41N	0W	57	177	03m21s
2433-Oct-13	15:20:15	914	235	5365	160	A	p-	-0.4840	0.9742	33S	65W	61	104	02m23s
2434-Mar-11	09:12:46	915	235	5370	127	P	-t	-1.5122	0.0837	61S	144E	0		
2434-Apr-09	23:15:23	916	236	5371	165	P	t-	1.3232	0.4059	61N	91E	0		
2434-Sep-03	17:04:07	917	236	5376	132	P	-t	1.4099	0.2331	61N	31E	0		
2434-Oct-03	01:46:02	917	236	5377	170	P	t-	-1.1789	0.6706	61S	57E	0		
2435-Feb-28	10:29:44	919	236	5382	137	A	-p	-0.8546	0.9165	55S	74E	31	599	07m05s
2435-Aug-24	10:03:11	921	237	5388	142	T	-p	0.6876	1.0684	48N	61E	46	304	04m35s
2436-Feb-17	10:05:23	923	237	5394	147	A	nn	-0.1567	0.9355	20S	40E	81	243	07m12s
2436-Aug-13	01:29:32	924	238	5400	152	Tm	nn	-0.0517	1.0361	12N	162E	87	122	03m21s
2437-Feb-05	15:11:24	926	238	5406	157	A	p-	0.5453	0.9810	15N	54W	57	79	01m58s
2437-Aug-02	11:06:00	928	238	5412	162	A	p-	-0.8552	0.9741	37S	4W	31	175	02m33s
2437-Dec-27	16:29:06	929	239	5417	129	P	-t	-1.4920	0.0824	65S	97E	0		
2438-Jan-26	03:17:36	930	239	5418	167	P	t-	1.1929	0.6441	63N	89E	0		
2438-Jun-22	22:46:46	931	239	5423	134	P	-t	1.2079	0.6068	66N	7E	0		
2438-Dec-17	08:05:39	933	240	5429	139	T	-p	-0.8539	1.0254	82S	83E	31	168	01m30s
2439-Jun-12	01:25:21	935	240	5435	144	A	-p	0.4207	0.9791	48N	164E	65	82	01m59s
2439-Dec-06	20:11:46	937	241	5441	149	A	-n	-0.1794	0.9844	33S	122W	79	56	01m36s
2440-May-31	10:58:14	938	241	5447	154	T	p-	-0.3597	1.0334	1N	20E	69	121	03m33s
2440-Nov-25	01:18:38	940	241	5453	159	A	p-	0.5445	0.9347	12N	164E	57	290	08m51s
2441-Apr-21	18:37:49	942	242	5458	126	P	-t	1.4707	0.1149	71N	135E	0		
2441-May-21	02:20:10	942	242	5459	164	P	t-	-1.0733	0.8795	69S	166E	0		
2441-Nov-14	00:59:16	944	242	5465	169	P	t-	1.2459	0.5405	70N	167W	0		
2442-Apr-11	10:14:03	945	243	5470	136	T	-p	0.8046	1.0248	59N	5E	36	142	01m45s
2442-Oct-04	12:42:59	947	243	5476	141	A	-p	-0.9371	0.9838	67S	56W	20	166	01m08s
2443-Mar-31	20:30:25	949	244	5482	146	A	nn	0.0890	0.9734	9N	124W	85	95	03m02s
2443-Sep-24	01:04:46	951	244	5488	151	T	nn	-0.1657	1.0502	10S	163E	80	169	04m39s
2444-Mar-19	23:21:37	953	244	5494	156	A	p-	-0.6476	0.9280	38S	150W	49	351	07m53s
2444-Sep-12	17:35:34	954	245	5500	161	T	p-	0.5548	1.0688	36N	69W	56	268	05m24s
2445-Mar-08	22:49:33	956	245	5506	166	P	t-	-1.3361	0.3892	72S	52W	0		
2445-Aug-04	00:27:21	958	246	5511	133	P	-t	-1.3097	0.4272	70S	146E	0		
2445-Sep-02	09:35:13	958	246	5512	171	P	t-	1.3049	0.4345	72N	154E	0		
2446-Jan-27	12:43:50	960	246	5517	138	A	-p	0.8790	0.9903	43N	15W	28	72	00m53s

2446-Jul-24	08:03:10	962	247	5523	143	A	-p	-0.5854	0.9665	16S	61E	54	149	04m13s
2447-Jan-17	02:14:02	963	247	5529	148	T	-n	0.1703	1.0417	11S	152E	80	141	04m03s
2447-Jul-13	09:29:34	965	247	5535	153	A	nn	0.1786	0.9481	32N	44E	80	194	06m18s
2448-Jan-06	17:57:06	967	248	5541	158	T	n-	-0.4991	1.0380	53S	83W	60	147	02m51s
2448-Jul-01	11:10:15	969	248	5547	163	A	t-	0.9316	0.9620	88N	136W	21	388	02m26s
2448-Dec-26	07:10:40	971	249	5553	168	P	t-	-1.2190	0.5919	67S	95W	0		
2449-May-22	10:19:14	972	249	5558	135	T	-t	-0.9790	1.0328	54S	58E	11	567	02m24s
2449-Nov-15	20:23:55	974	249	5564	140	An	-t	0.9810	0.9186	55N	90W	10	-	07m35s
2450-May-12	02:29:43	976	250	5570	145	T	-n	-0.2331	1.0722	6N	151E	77	241	06m19s
2450-Nov-04	19:49:30	978	250	5576	150	A	nn	0.2828	0.9318	0S	111W	74	264	08m30s
2451-May-01	18:53:36	980	251	5582	155	T	p-	0.4957	1.0459	42N	115W	60	175	03m28s
2451-Oct-24	23:03:08	981	251	5588	160	A	p-	-0.4423	0.9746	35S	179W	64	101	02m21s
2452-Mar-21	17:01:30	983	252	5593	127	Pe	-t	-1.5455	0.0261	61S	19E	0		
2452-Apr-20	06:54:26	983	252	5594	165	P	t-	1.2818	0.4798	62N	33W	0		
2452-Sep-14	00:49:16	985	252	5599	132	P	-t	1.4635	0.1307	61N	94W	0		
2452-Oct-13	09:44:04	985	252	5600	170	P	t-	-1.1333	0.7554	61S	70W	0		
2453-Mar-10	18:09:41	987	253	5605	137	A	-p	-0.8820	0.9177	54S	40W	28	647	07m04s
2453-Sep-03	17:43:47	989	253	5611	142	T	-p	0.7513	1.0638	48N	50W	41	312	04m15s
2454-Feb-27	18:01:46	990	253	5617	147	A	nn	-0.1750	0.9393	17S	78W	80	228	06m40s
2454-Aug-24	08:48:46	992	254	5623	152	T	nn	0.0195	1.0310	12N	53E	89	105	02m50s
2455-Feb-16	23:36:26	994	254	5629	157	A	p-	0.5334	0.9857	17N	179E	58	59	01m25s
2455-Aug-13	17:54:36	996	255	5635	162	A	p-	-0.7781	0.9716	32S	105W	39	158	02m52s
2456-Jan-08	01:21:03	998	255	5640	129	P	-t	-1.4955	0.0759	65S	46W	0		
2456-Feb-06	12:03:14	998	255	5641	167	P	t-	1.1842	0.6608	62N	51W	0		
2456-Jul-03	05:13:15	1000	256	5646	134	P	-t	1.2925	0.4621	65N	99W	0		
2456-Dec-27	16:51:24	1001	256	5652	139	T	-p	-0.8614	1.0222	80S	23W	30	151	01m19s
2457-Jun-22	08:16:12	1003	256	5658	144	A	-p	0.4980	0.9827	53N	66E	60	71	01m32s
2457-Dec-17	04:35:26	1005	257	5664	149	A	-n	-0.1900	0.9799	34S	115E	79	73	02m04s
2458-Jun-11	18:19:39	1007	257	5670	154	T	n-	-0.2891	1.0388	6N	91W	73	136	04m04s
2458-Dec-06	09:14:45	1009	258	5676	159	A	p-	0.5280	0.9312	9N	44E	58	303	09m34s
2459-May-03	02:35:53	1010	258	5681	126	Pe	-t	1.5188	0.0214	70N	3E	0		
2459-Jun-01	09:59:49	1011	258	5682	164	T-	t-	-1.0096	1.0038	68S	40E	0		
2459-Nov-25	08:41:40	1013	259	5688	169	P	t-	1.2211	0.5819	69N	65E	0		

2460-Apr-21	18:09:48	1014	259	5693	136	T	-p	0.8503	1.0237	67N	121W	31	154	01m34s
2460-Oct-14	20:25:56	1016	259	5699	141	A	-p	-0.9775	0.9817	74S	155E	11	328	01m09s
2461-Apr-11	04:10:34	1018	260	5705	146	A	nn	0.1300	0.9732	16N	120E	82	97	03m02s
2461-Oct-04	09:00:21	1020	260	5711	151	T	-n	-0.2131	1.0495	17S	43E	78	168	04m30s
2462-Mar-31	06:49:43	1022	261	5717	156	A	p-	-0.6111	0.9302	32S	95E	52	327	08m07s
2462-Sep-24	01:28:07	1024	261	5723	161	T	p-	0.5013	1.0662	28N	170E	60	249	05m28s
2463-Mar-20	06:27:53	1026	262	5729	166	P	t-	-1.3050	0.4411	72S	179E	0		
2463-Aug-15	07:37:34	1027	262	5734	133	P	-t	-1.3853	0.2891	71S	26E	0		
2463-Sep-13	17:10:27	1027	262	5735	171	P	t-	1.2504	0.5368	72N	26E	0		
2464-Feb-07	21:17:15	1029	262	5740	138	A	-p	0.8840	0.9941	46N	148W	28	44	00m31s
2464-Aug-03	14:42:59	1031	263	5746	143	A	-p	-0.6693	0.9621	24S	42W	48	184	04m32s
2465-Jan-27	11:03:48	1033	263	5752	148	T	-n	0.1752	1.0435	8S	20E	80	147	04m11s
2465-Jul-23	15:54:47	1035	264	5758	153	A	nn	0.0904	0.9482	25N	52W	85	191	06m35s
2466-Jan-17	02:47:00	1037	264	5764	158	T	n-	-0.4953	1.0366	50S	149E	60	142	02m48s
2466-Jul-12	17:50:50	1039	265	5770	163	A	t-	0.8460	0.9676	80N	67W	32	221	02m18s
2467-Jan-06	15:46:08	1040	265	5776	168	P	t-	-1.2179	0.5934	68S	125E	0		
2467-Jun-02	17:48:23	1042	266	5781	135	P	-t	-1.0425	0.9314	64S	52W	0		
2467-Nov-27	04:10:20	1044	266	5787	140	A+	-t	1.0051	0.9433	64N	157E	0		
2468-May-22	10:15:10	1046	266	5793	145	T	-n	-0.2937	1.0744	4N	35E	73	252	06m41s
2468-Nov-15	03:28:22	1048	267	5799	150	A	-n	0.3126	0.9304	1S	135E	72	273	08m59s
2469-May-12	02:39:06	1050	267	5805	155	T	p-	0.4416	1.0466	43N	132E	64	172	03m36s
2469-Nov-04	06:55:36	1052	268	5811	160	A	p-	-0.4081	0.9750	37S	65E	66	97	02m19s
2470-May-01	14:25:39	1054	268	5817	165	P	t-	1.2347	0.5638	62N	154W	0		
2470-Sep-25	08:39:56	1055	269	5822	132	Pe	-t	1.5130	0.0365	61N	140E	0		
2470-Oct-24	17:49:28	1056	269	5823	170	P	t-	-1.0932	0.8298	62S	160E	0		
2471-Mar-22	01:43:36	1057	269	5828	137	A	-p	-0.9141	0.9190	53S	152W	24	738	07m00s
2471-Sep-15	01:29:10	1059	270	5834	142	T	-p	0.8109	1.0585	48N	163W	36	323	03m54s
2472-Mar-10	01:52:10	1061	270	5840	147	A	nn	-0.1989	0.9436	14S	164E	78	212	06m08s
2472-Sep-03	16:12:53	1063	270	5846	152	T	nn	0.0857	1.0255	11N	57W	85	87	02m19s
2473-Feb-27	07:56:50	1065	271	5852	157	A	p-	0.5168	0.9908	20N	53E	59	37	00m53s
2473-Aug-24	00:46:31	1067	271	5858	162	A	p-	-0.7042	0.9684	29S	152E	45	156	03m12s
2474-Jan-18	10:12:10	1068	272	5863	129	P	-t	-1.5000	0.0673	64S	172E	0		
2474-Feb-16	20:44:51	1069	272	5864	167	P	t-	1.1720	0.6842	62N	170E	0		

2474-Jul-14	11:40:29	1070	272	5869	134	P	-t	1.3764	0.3182	64N	155E	0							
2474-Aug-13	02:43:55	1071	272	5870	172	Pb	t-	-1.4827	0.1380	62S	84E	0							
2475-Jan-08	01:37:51	1072	273	5875	139	T	-p	-0.8680	1.0196	76S	143W	29	136	01m10s					
2475-Jul-03	15:05:21	1074	273	5881	144	A	-p	0.5775	0.9858	57N	29W	54	62	01m11s					
2475-Dec-28	13:01:53	1076	274	5887	149	A	-n	-0.1977	0.9760	35S	9W	78	87	02m27s					
2476-Jun-22	01:38:28	1078	274	5893	154	T	n-	-0.2152	1.0435	11N	159E	78	149	04m25s					
2476-Dec-16	17:15:17	1080	274	5899	159	A	p-	0.5154	0.9282	8N	78W	59	314	10m04s					
2477-Jun-11	17:35:28	1082	275	5905	164	T	t-	-0.9422	1.0647	48S	82W	19	642	04m53s					
2477-Dec-05	16:32:04	1084	275	5911	169	P	t-	1.2019	0.6137	68N	63W	0							
2478-May-03	01:55:58	1086	276	5916	136	T	-t	0.9034	1.0218	76N	107E	25	176	01m20s					
2478-Oct-26	04:18:20	1088	276	5922	141	P	-t	-1.0109	0.9644	71S	14W	0							
2479-Apr-22	11:40:29	1090	277	5928	146	A	nn	0.1790	0.9731	22N	6E	80	98	03m01s					
2479-Oct-15	17:04:10	1091	277	5934	151	T	-n	-0.2538	1.0484	23S	79W	75	166	04m18s					
2480-Apr-10	14:07:45	1093	278	5940	156	A	p-	-0.5664	0.9326	25S	17W	55	303	08m18s					
2480-Oct-04	09:27:57	1095	278	5946	161	T	p-	0.4542	1.0631	21N	48E	63	231	05m26s					
2481-Mar-30	14:00:06	1097	278	5952	166	P	t-	-1.2684	0.5028	72S	52E	0							
2481-Aug-25	14:49:24	1099	279	5957	133	P	-t	-1.4585	0.1568	71S	95W	0							
2481-Sep-24	00:49:50	1099	279	5958	171	P	t-	1.1997	0.6308	72N	102W	0							
2482-Feb-18	05:48:51	1101	279	5963	138	A	-p	0.8912	0.9982	49N	80E	27	14	00m09s					
2482-Aug-14	21:23:34	1103	280	5969	143	A	-p	-0.7516	0.9573	34S	147W	41	234	04m45s					
2483-Feb-07	19:51:55	1105	280	5975	148	T	-n	0.1818	1.0457	5S	112W	80	155	04m20s					
2483-Aug-03	22:21:16	1107	281	5981	153	A	nn	0.0029	0.9479	17N	149W	90	192	06m50s					
2484-Jan-28	11:35:52	1109	281	5987	158	T	n-	-0.4909	1.0358	47S	20E	60	138	02m48s					
2484-Jul-23	00:34:33	1111	282	5993	163	A	p-	0.7618	0.9720	69N	167W	40	156	02m10s					
2485-Jan-17	00:19:52	1113	282	5999	168	P	t-	-1.2161	0.5963	69S	14W	0							
2485-Jun-13	01:16:17	1115	282	6004	135	P	-t	-1.1076	0.8094	65S	173W	0							
2485-Jul-12	09:35:01	1115	283	6005	173	Pb	t-	1.4713	0.1260	68N	146W	0							
2485-Dec-07	12:01:58	1116	283	6010	140	A+	-t	1.0243	0.9099	65N	30E	0							
2486-Jun-02	17:55:27	1118	283	6016	145	T	-n	-0.3588	1.0760	2N	80W	69	263	06m59s					
2486-Nov-26	11:15:06	1120	284	6022	150	A	-n	0.3364	0.9294	2S	18E	70	280	09m26s					
2487-May-23	10:16:14	1122	284	6028	155	T	n-	0.3811	1.0467	42N	21E	67	168	03m43s					
2487-Nov-15	14:57:34	1124	285	6034	160	A	p-	-0.3807	0.9756	40S	53W	67	94	02m16s					
2488-May-11	21:45:54	1126	285	6040	165	P	t-	1.1793	0.6627	63N	87E	0							

2488-Nov-04	02:04:55	1128	286	6046	170	P	t-	-1.0609	0.8899	62S	27E	0		
2489-Apr-01	09:07:53	1130	286	6051	137	A	-t	-0.9541	0.9200	54S	100E	17	997	06m50s
2489-Sep-25	09:20:21	1132	287	6057	142	T	-p	0.8655	1.0527	49N	82E	30	341	03m32s
2490-Mar-21	09:36:10	1134	287	6063	147	A	nn	-0.2288	0.9483	11S	49E	77	195	05m36s
2490-Sep-14	23:40:37	1136	287	6069	152	T	-n	0.1484	1.0195	10N	167W	81	67	01m47s
2491-Mar-10	16:11:56	1138	288	6075	157	A	p-	0.4951	0.9964	22N	71W	60	14	00m20s
2491-Sep-04	07:41:14	1140	288	6081	162	A	p-	-0.6332	0.9646	28S	50E	51	161	03m34s
2492-Jan-29	19:03:42	1142	289	6086	129	P	-t	-1.5046	0.0582	63S	30E	0		
2492-Feb-28	05:22:52	1142	289	6087	167	P	t-	1.1567	0.7136	61N	32E	0		
2492-Jul-24	18:08:31	1144	289	6092	134	P	-t	1.4595	0.1755	63N	49E	0		
2492-Aug-23	09:17:48	1144	289	6093	172	P	t-	-1.4042	0.2724	62S	23W	0		
2493-Jan-18	10:24:29	1146	290	6098	139	T	-p	-0.8743	1.0174	72S	90E	29	123	01m02s
2493-Jul-13	21:56:35	1148	290	6104	144	A	-p	0.6562	0.9882	60N	123W	49	55	00m56s
2494-Jan-07	21:30:20	1150	291	6110	149	A	-n	-0.2034	0.9727	34S	133W	78	100	02m46s
2494-Jul-03	08:56:15	1152	291	6116	154	T	nn	-0.1397	1.0477	15N	51E	82	160	04m40s
2494-Dec-28	01:19:27	1154	292	6122	159	A	p-	0.5061	0.9257	7N	161E	60	323	10m22s
2495-Jun-23	01:08:05	1156	292	6128	164	T	t-	-0.8718	1.0696	37S	161E	29	464	05m39s
2495-Dec-17	00:27:37	1158	292	6134	169	P	t-	1.1867	0.6390	66N	168E	0		
2496-May-13	09:34:24	1160	293	6139	136	T	-t	0.9622	1.0185	81N	72W	15	243	01m02s
2496-Nov-05	12:20:22	1162	293	6145	141	P	-t	-1.0373	0.9173	70S	148W	0		
2497-May-02	19:01:51	1164	294	6151	146	A	-n	0.2341	0.9728	29N	104W	76	100	02m59s
2497-Oct-26	01:15:22	1166	294	6157	151	T	-n	-0.2889	1.0472	29S	157E	73	164	04m06s
2498-Apr-21	21:17:11	1168	295	6163	156	A	p-	-0.5148	0.9351	18S	127W	59	280	08m26s
2498-Oct-15	17:34:43	1170	295	6169	161	T	n-	0.4130	1.0597	15N	76W	66	215	05m21s
2499-Apr-10	21:22:38	1172	296	6175	166	P	t-	-1.2233	0.5798	72S	72W	0		
2499-Sep-05	22:05:17	1173	296	6180	133	Pe	-t	-1.5274	0.0340	72S	143E	0		
2499-Oct-05	08:36:22	1174	296	6181	171	P	t-	1.1554	0.7120	72N	127E	0		
2500-Mar-01	14:14:46	1176	297	6186	138	H	-p	0.9038	1.0026	54N	52W	25	21	00m12s
2500-Aug-26	04:08:15	1178	297	6192	143	A	-p	-0.8297	0.9518	44S	106E	34	313	04m53s

# 26TH CENTURY CE

**In the 26th century CE the total number of solar eclipses will be 225 solar eclipses: 83 partial solar eclipses, 72 annular solar eclipses (71 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 1 non-central annular solar eclipses with one limit), 64 total solar eclipses (61 central total solar eclipses with two limits, 2 central total solar eclipses with one limit, 1 non-central total solar eclipses with one limit), 6 hybrid solar eclipses.**

CALENDAR	TD	$\Delta T$	$\Delta T$	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
2501-Feb-19	04:35:20	1180	297	6198	148	T	-n	0.1925	1.0483	1S	116E	79	163	04m31s
2501-Aug-15	04:52:07	1182	298	6204	153	Am	nn	-0.0811	0.9471	9N	112E	85	195	07m01s
2502-Feb-08	20:22:28	1184	298	6210	158	T	n-	-0.4851	1.0354	43S	109W	61	136	02m49s
2502-Aug-04	07:19:51	1186	299	6216	163	A	p-	0.6779	0.9756	59N	90E	47	119	02m03s
2503-Jan-29	08:53:31	1188	299	6222	168	P	t-	-1.2150	0.5980	70S	154W	0		
2503-Jun-25	08:40:21	1190	300	6227	135	P	-t	-1.1759	0.6799	66S	66E	0		
2503-Jul-24	16:46:36	1190	300	6228	173	P	t-	1.3925	0.2718	69N	95E	0		
2503-Dec-19	19:59:20	1192	300	6233	140	P	-t	1.0386	0.8851	66N	99W	0		
2504-Jun-14	01:31:02	1194	301	6239	145	T	-p	-0.4279	1.0769	2S	166E	65	275	07m10s
2504-Dec-07	19:10:07	1196	301	6245	150	A	-n	0.3536	0.9289	2S	101W	69	284	09m46s
2505-Jun-03	17:48:01	1198	302	6251	155	T	n-	0.3165	1.0464	40N	87W	71	163	03m50s
2505-Nov-26	23:07:02	1200	302	6257	160	A	p-	-0.3588	0.9763	41S	173W	69	91	02m13s
2506-May-24	04:59:34	1202	303	6263	165	P	t-	1.1192	0.7696	64N	30W	0		
2506-Nov-16	10:27:36	1204	303	6269	170	P	t-	-1.0340	0.9396	63S	107W	0		
2507-Apr-13	16:23:41	1206	303	6274	137	A-	-t	-1.0007	0.9538	61S	12E	0		
2507-Oct-07	17:18:16	1208	304	6280	142	T	-t	0.9141	1.0464	50N	35W	24	374	03m07s
2508-Apr-01	17:13:21	1210	304	6286	147	A	nn	-0.2648	0.9532	9S	65W	75	177	05m06s

2508-Sep-26	07:14:50	1212	305	6292	152	H	-n	0.2046	1.0134	9N	80E	78	47	01m14s
2509-Mar-22	00:20:46	1214	305	6298	157	H	p-	0.4675	1.0023	25N	167E	62	9	00m12s
2509-Sep-15	14:42:14	1216	306	6304	162	A	p-	-0.5679	0.9604	27S	55W	55	171	03m58s
2510-Feb-10	03:51:54	1218	306	6309	129	P	-t	-1.5124	0.0430	62S	110W	0		
2510-Mar-11	13:54:43	1218	306	6310	167	P	t-	1.1361	0.7532	61N	104W	0		
2510-Aug-06	00:38:55	1220	307	6315	134	Pe	-t	1.5405	0.0361	63N	58W	0		
2510-Sep-04	15:56:47	1220	307	6316	172	P	t-	-1.3292	0.4004	61S	131W	0		
2511-Jan-30	19:09:31	1222	307	6321	139	T	-p	-0.8817	1.0157	68S	41W	28	114	00m57s
2511-Jul-26	04:49:25	1224	308	6327	144	A	-p	0.7346	0.9899	62N	145E	42	52	00m45s
2512-Jan-20	05:57:19	1226	308	6333	149	A	-n	-0.2097	0.9700	32S	102E	78	110	03m02s
2512-Jul-14	16:14:10	1228	309	6339	154	T	nn	-0.0633	1.0510	18N	58W	86	170	04m47s
2513-Jan-08	09:25:22	1230	309	6345	159	A	p-	0.4982	0.9240	7N	39E	60	329	10m25s
2513-Jul-04	08:38:15	1232	310	6351	164	T	p-	-0.7991	1.0729	30S	47E	37	392	06m09s
2513-Dec-28	08:28:04	1234	310	6357	169	P	t-	1.1748	0.6588	65N	38E	0		
2514-May-25	17:04:31	1236	310	6362	136	P	-t	1.0273	0.9507	68N	122E	0		
2514-Nov-17	20:31:20	1238	311	6368	141	P	-t	-1.0572	0.8818	69S	78E	0		
2515-May-15	02:12:09	1240	311	6374	146	A	-p	0.2977	0.9722	36N	148E	72	104	02m57s
2515-Nov-07	09:35:32	1242	312	6380	151	T	-n	-0.3169	1.0459	34S	33E	71	161	03m53s
2516-May-03	04:17:45	1245	312	6386	156	A	p-	-0.4558	0.9377	11S	126E	63	259	08m28s
2516-Oct-27	01:48:44	1247	313	6392	161	T	n-	0.3781	1.0560	9N	159E	68	199	05m11s
2517-Apr-22	04:39:27	1249	313	6398	166	P	t-	-1.1726	0.6670	71S	166E	0		
2517-Oct-16	16:28:58	1251	314	6404	171	P	t-	1.1164	0.7824	72N	4W	0		
2518-Mar-12	22:37:00	1253	314	6409	138	T	-p	0.9200	1.0071	59N	176E	23	63	00m31s
2518-Sep-06	10:55:40	1255	315	6415	143	A	-t	-0.9046	0.9458	55S	6W	25	467	04m54s
2519-Mar-02	13:15:23	1257	315	6421	148	T	-n	0.2062	1.0511	4N	14W	78	173	04m42s
2519-Aug-26	11:27:48	1259	316	6427	153	A	nn	-0.1611	0.9460	1N	12E	81	201	07m08s
2520-Feb-20	05:04:05	1261	316	6433	158	T	n-	-0.4757	1.0353	39S	122E	61	135	02m54s
2520-Aug-14	14:11:40	1263	317	6439	163	A	p-	0.5983	0.9784	50N	14W	53	96	01m57s
2521-Feb-08	17:22:53	1265	317	6445	168	P	t-	-1.2115	0.6040	71S	66E	0		
2521-Jul-05	16:04:52	1267	317	6450	135	P	-t	-1.2445	0.5492	67S	56W	0		
2521-Aug-04	00:02:17	1267	318	6451	173	P	t-	1.3160	0.4142	70N	26W	0		
2521-Dec-30	03:58:49	1269	318	6456	140	P	-t	1.0507	0.8642	67N	131E	0		
2522-Jun-25	09:03:44	1271	318	6462	145	T	-p	-0.4992	1.0769	7S	52E	60	287	07m12s

2522-Dec-19	03:10:39	1273	319	6468	150	A	-n	0.3668	0.9290	2S	139E	68	286	09m58s
2523-Jun-15	01:12:28	1276	319	6474	155	T	n-	0.2464	1.0453	38N	165E	76	156	03m56s
2523-Dec-08	07:24:53	1278	320	6480	160	A	n-	-0.3431	0.9774	42S	66E	70	86	02m08s
2524-Jun-03	12:04:38	1280	320	6486	165	P	t-	1.0528	0.8874	65N	146W	0		
2524-Nov-26	18:58:08	1282	321	6492	170	P	t-	-1.0134	0.9778	64S	116E	0		
2525-Apr-23	23:30:13	1284	321	6497	137	P	-t	-1.0544	0.8645	62S	103W	0		
2525-Oct-18	01:23:53	1286	322	6503	142	T	-t	0.9558	1.0396	53N	154W	17	450	02m39s
2526-Apr-13	00:43:01	1288	322	6509	147	A	-n	-0.3078	0.9583	7S	177W	72	158	04m35s
2526-Oct-07	14:54:19	1290	323	6515	152	H	-n	0.2558	1.0070	7N	34W	75	25	00m40s
2527-Apr-02	08:23:25	1292	323	6521	157	H	p-	0.4341	1.0086	27N	47E	64	33	00m45s
2527-Sep-26	21:48:44	1294	324	6527	162	A	p-	-0.5074	0.9559	28S	160W	59	183	04m25s
2528-Feb-21	12:36:43	1296	324	6532	129	Pe	-t	-1.5232	0.0218	62S	110E	0		
2528-Mar-21	22:20:27	1297	324	6533	167	P	t-	1.1103	0.8031	61N	121E	0		
2528-Sep-14	22:42:52	1299	325	6539	172	P	t-	-1.2592	0.5193	61S	119E	0		
2529-Feb-10	03:52:29	1301	325	6544	139	T	-p	-0.8909	1.0143	64S	172W	27	108	00m53s
2529-Aug-05	11:45:34	1303	325	6550	144	A	-p	0.8109	0.9910	63N	53E	36	54	00m38s
2530-Jan-30	14:23:08	1305	326	6556	149	A	-n	-0.2163	0.9678	29S	22W	77	119	03m14s
2530-Jul-25	23:33:47	1307	326	6562	154	T	nn	0.0124	1.0538	20N	166W	89	178	04m50s
2531-Jan-19	17:31:18	1309	327	6568	159	A	p-	0.4908	0.9228	8N	84W	61	332	10m17s
2531-Jul-15	16:07:32	1311	327	6574	164	T	p-	-0.7256	1.0750	24S	67W	43	351	06m25s
2532-Jan-08	16:31:03	1313	328	6580	169	P	t-	1.1645	0.6761	64N	93W	0		
2532-Jun-05	00:28:57	1315	328	6585	136	P	-t	1.0962	0.8224	67N	0E	0		
2532-Jul-04	08:54:57	1316	328	6586	174	Pb	t-	-1.4781	0.1041	65S	27E	0		
2532-Nov-28	04:49:24	1317	329	6591	141	P	-t	-1.0722	0.8552	68S	58W	0		
2533-May-25	09:15:48	1320	329	6597	146	A	-p	0.3660	0.9712	43N	44E	68	111	02m56s
2533-Nov-17	18:03:08	1322	330	6603	151	T	-n	-0.3394	1.0448	39S	93W	70	159	03m43s
2534-May-14	11:09:27	1324	330	6609	156	A	p-	-0.3896	0.9402	4S	21E	67	240	08m23s
2534-Nov-07	10:10:05	1326	331	6615	161	T	n-	0.3494	1.0522	4N	33E	70	184	04m58s
2535-May-03	11:47:36	1328	331	6621	166	P	t-	-1.1137	0.7692	70S	46E	0		
2535-Oct-28	00:29:33	1330	332	6627	171	P	t-	1.0846	0.8389	71N	138W	0		
2536-Mar-23	06:51:05	1332	332	6632	138	T	-p	0.9435	1.0115	65N	41E	19	121	00m46s
2536-Sep-16	17:50:17	1334	333	6638	143	A	-t	-0.9728	0.9385	67S	132W	13	1026	04m48s
2537-Mar-12	21:49:06	1337	333	6644	148	T	-n	0.2254	1.0542	9N	143W	77	184	04m53s



2537-Sep-05	18:08:58	1339	334	6650	153	A	nn	-0.2368	0.9446	7S	91W	76	210	07m11s
2538-Mar-02	13:41:08	1341	334	6656	158	T	n-	-0.4628	1.0357	34S	8W	62	135	03m01s
2538-Aug-25	21:08:13	1343	335	6662	163	A	p-	0.5217	0.9806	41N	120W	58	81	01m52s
2539-Feb-20	01:48:04	1345	335	6668	168	P	t-	-1.2050	0.6154	71S	73W	0		
2539-Jul-16	23:27:48	1347	336	6673	135	P	-t	-1.3149	0.4142	68S	177W	0		
2539-Aug-15	07:21:00	1348	336	6674	173	P	t-	1.2408	0.5549	71N	148W	0		
2540-Jan-10	12:01:34	1349	336	6679	140	P	-t	1.0600	0.8482	68N	0E	0		
2540-Jul-05	16:34:25	1352	337	6685	145	T	-p	-0.5723	1.0760	12S	62W	55	300	07m04s
2540-Dec-29	11:15:57	1354	337	6691	150	A	-n	0.3766	0.9296	1S	18E	68	285	09m57s
2541-Jun-25	08:33:56	1356	337	6697	155	T	nn	0.1742	1.0437	33N	57E	80	148	03m58s
2541-Dec-18	15:48:53	1358	338	6703	160	A	n-	-0.3318	0.9788	43S	56W	70	80	02m01s
2542-Jun-14	19:03:07	1360	338	6709	165	A	t-	0.9815	0.9737	75N	112E	10	539	01m30s
2542-Dec-08	03:35:00	1363	339	6715	170	T-	t-	-0.9975	1.0073	65S	22W	0		
2543-May-05	06:29:17	1364	339	6720	137	P	-t	-1.1141	0.7647	62S	144E	0		
2543-Oct-29	09:36:28	1367	340	6726	142	Tn	-t	0.9919	1.0316	59N	91E	6	-	02m02s
2544-Apr-23	08:05:32	1369	340	6732	147	A	-n	-0.3575	0.9635	6S	73E	69	140	04m05s
2544-Oct-17	22:41:12	1371	341	6738	152	H	-n	0.3001	1.0006	6N	150W	72	2	00m04s
2545-Apr-12	16:19:45	1373	341	6744	157	H	p-	0.3942	1.0149	29N	71W	67	55	01m17s
2545-Oct-07	05:01:13	1376	342	6750	162	A	p-	-0.4522	0.9514	29S	93E	63	197	04m54s
2546-Apr-02	06:39:21	1378	342	6756	167	P	t-	1.0784	0.8648	61N	12W	0		
2546-Sep-26	05:36:26	1380	343	6762	172	P	t-	-1.1945	0.6286	61S	7E	0		
2547-Feb-21	12:29:28	1382	343	6767	139	T	-p	-0.9046	1.0132	61S	58E	25	106	00m50s
2547-Aug-16	18:46:34	1384	344	6773	144	A	-p	0.8841	0.9910	63N	40W	27	67	00m37s
2548-Feb-10	22:44:24	1386	344	6779	149	A	-n	-0.2263	0.9662	26S	146W	77	125	03m23s
2548-Aug-05	06:56:34	1388	345	6785	154	Tm	nn	0.0863	1.0556	21N	85E	85	184	04m49s
2549-Jan-30	01:34:49	1391	345	6791	159	A	p-	0.4815	0.9223	9N	155E	61	331	09m59s
2549-Jul-25	23:37:24	1393	346	6797	164	T	p-	-0.6522	1.0761	19S	180W	49	322	06m30s
2550-Jan-19	00:36:23	1395	346	6803	169	P	t-	1.1554	0.6915	63N	137E	0		
2550-Jun-16	07:45:33	1397	347	6808	136	P	-t	1.1708	0.6839	66N	119W	0		
2550-Jul-15	16:14:56	1397	347	6809	174	P	t-	-1.4089	0.2367	64S	93W	0		
2550-Dec-09	13:15:39	1399	347	6814	141	P	-t	-1.0815	0.8389	67S	164E	0		
2551-Jun-05	16:10:38	1401	348	6820	146	A	-p	0.4411	0.9699	49N	57W	64	121	02m55s
2551-Nov-29	02:38:18	1404	348	6826	151	T	-n	-0.3559	1.0438	42S	141E	69	157	03m34s

2552-May-24	17:54:07	1406	349	6832	156	A	pn	-0.3173	0.9425	3N	82W	72	224	08m09s
2552-Nov-17	18:38:44	1408	349	6838	161	T	n-	0.3269	1.0485	0S	95W	71	170	04m42s
2553-May-13	18:51:20	1410	350	6844	166	P	t-	-1.0504	0.8801	70S	72W	0		
2553-Nov-07	08:35:20	1413	350	6850	171	P	t-	1.0577	0.8859	70N	88E	0		
2554-Apr-03	15:00:49	1415	351	6855	138	T	-p	0.9714	1.0153	72N	103W	13	232	00m56s
2554-Sep-28	00:50:12	1417	351	6861	143	P	-t	-1.0358	0.8994	72S	75E	0		
2555-Mar-24	06:16:22	1419	352	6867	148	T	-n	0.2502	1.0574	15N	89E	75	195	05m04s
2555-Sep-17	00:58:16	1421	352	6873	153	A	nn	-0.3061	0.9429	15S	165E	72	221	07m10s
2556-Mar-12	22:11:19	1424	353	6879	158	T	n-	-0.4446	1.0362	28S	136W	63	135	03m10s
2556-Sep-05	04:13:24	1426	353	6885	163	A	p-	0.4510	0.9823	32N	131E	63	70	01m48s
2557-Mar-02	10:05:47	1428	354	6891	168	P	t-	-1.1932	0.6362	72S	149E	0		
2557-Jul-27	06:54:06	1430	354	6896	135	P	-t	-1.3828	0.2835	69S	60E	0		
2557-Aug-25	14:46:37	1430	354	6897	173	P	t-	1.1703	0.6871	71N	88E	0		
2558-Jan-20	20:03:51	1432	355	6902	140	P	-t	1.0694	0.8325	69N	132W	0		
2558-Jul-17	00:03:12	1434	355	6908	145	T	-p	-0.6466	1.0742	19S	176W	50	315	06m43s
2559-Jan-09	19:24:27	1437	356	6914	150	A	-n	0.3841	0.9308	1N	105W	67	280	09m43s
2559-Jul-06	15:50:35	1439	356	6920	155	Tm	nn	0.0991	1.0412	28N	50W	84	139	03m55s
2559-Dec-30	00:17:17	1441	357	6926	160	A	n-	-0.3237	0.9808	42S	179W	71	72	01m50s
2560-Jun-25	01:55:48	1444	357	6932	165	A	p-	0.9062	0.9754	86N	90E	25	211	01m35s
2560-Dec-18	12:17:52	1446	358	6938	170	T	t-	-0.9867	1.0185	74S	155W	8	443	00m55s
2561-May-15	13:20:15	1448	358	6943	137	P	-t	-1.1802	0.6533	63S	32E	0		
2561-Nov-08	17:55:38	1450	358	6949	142	P	-t	1.0222	0.9659	63N	32W	0		
2562-May-04	15:21:27	1452	359	6955	147	A	-p	-0.4134	0.9686	7S	36W	66	123	03m35s
2562-Oct-29	06:34:38	1455	359	6961	152	A	-n	0.3382	0.9943	5N	92E	70	21	00m35s
2563-Apr-24	00:08:29	1457	360	6967	157	T	p-	0.3473	1.0214	31N	174E	70	77	01m49s
2563-Oct-18	12:21:37	1459	361	6973	162	A	p-	-0.4042	0.9467	31S	15W	66	213	05m26s
2564-Apr-12	14:51:40	1461	361	6979	167	P	t-	1.0412	0.9374	61N	144W	0		
2564-Oct-06	12:38:12	1464	362	6985	172	P	t-	-1.1361	0.7267	61S	106W	0		
2565-Mar-03	21:01:37	1466	362	6990	139	T	-t	-0.9220	1.0121	59S	70W	22	107	00m46s
2565-Aug-27	01:53:54	1468	362	6996	144	A	-t	0.9527	0.9900	63N	130W	17	117	00m39s
2566-Feb-21	07:01:42	1470	363	7002	149	A	-n	-0.2389	0.9650	23S	91E	76	130	03m30s
2566-Aug-16	14:22:23	1472	363	7008	154	T	nn	0.1582	1.0569	22N	24W	81	190	04m47s
2567-Feb-10	09:35:49	1475	364	7014	159	A	p-	0.4703	0.9223	11N	34E	62	328	09m37s

2567-Aug-06	07:09:07	1477	364	7020	164	T	p-	-0.5801	1.0762	17S	67E	54	299	06m26s
2568-Jan-30	08:39:45	1479	365	7026	169	P	t-	1.1441	0.7107	63N	7E	0		
2568-Jun-26	14:58:53	1481	365	7031	136	P	-t	1.2472	0.5426	65N	123E	0		
2568-Jul-25	23:36:00	1482	365	7032	174	P	t-	-1.3407	0.3667	63S	148E	0		
2568-Dec-19	21:46:59	1484	366	7037	141	P	-t	-1.0877	0.8283	66S	26E	0		
2569-Jun-15	23:00:06	1486	366	7043	146	A	-p	0.5197	0.9680	55N	155W	58	135	02m56s
2569-Dec-09	11:18:30	1488	367	7049	151	T	-n	-0.3687	1.0431	45S	15E	68	155	03m27s
2570-Jun-05	00:32:15	1491	367	7055	156	A	nn	-0.2395	0.9446	9N	178E	76	211	07m48s
2570-Nov-29	03:13:42	1493	368	7061	161	T	n-	0.3100	1.0449	3S	136E	72	158	04m25s
2571-May-25	01:46:58	1495	368	7067	166	A	t-	-0.9794	0.9520	58S	168E	11	924	04m21s
2571-Nov-18	16:49:12	1497	369	7073	171	P	t-	1.0379	0.9196	69N	47W	0		
2572-Apr-13	23:02:06	1499	369	7078	138	P	-t	1.0068	0.9901	72N	81E	0		
2572-Oct-08	07:58:18	1502	370	7084	143	P	-t	-1.0915	0.8030	72S	46W	0		
2573-Apr-03	14:36:14	1504	370	7090	148	T	-n	0.2815	1.0606	21N	37W	74	207	05m13s
2573-Sep-27	07:55:48	1506	371	7096	153	A	-p	-0.3691	0.9411	23S	58E	68	233	07m06s
2574-Mar-24	06:34:19	1509	371	7102	158	T	n-	-0.4208	1.0371	22S	97E	65	137	03m21s
2574-Sep-16	11:24:59	1511	372	7108	163	A	p-	0.3847	0.9835	24N	21E	67	63	01m45s
2575-Mar-13	18:17:18	1513	372	7114	168	P	t-	-1.1770	0.6647	72S	13E	0		
2575-Aug-07	14:21:36	1515	373	7119	135	P	-t	-1.4499	0.1540	70S	64W	0		
2575-Sep-05	22:17:39	1516	373	7120	173	P	t-	1.1035	0.8126	72N	38W	0		
2576-Feb-01	04:04:57	1518	373	7125	140	P	-t	1.0794	0.8160	70N	96E	0		
2576-Jul-27	07:32:30	1520	374	7131	145	T	-p	-0.7204	1.0714	27S	68E	44	334	06m12s
2577-Jan-20	03:34:58	1522	374	7137	150	A	-n	0.3901	0.9327	3N	132E	67	273	09m18s
2577-Jul-16	23:05:21	1525	375	7143	155	T	nn	0.0230	1.0382	22N	158W	89	128	03m47s
2578-Jan-09	08:48:58	1527	375	7149	160	A	n-	-0.3175	0.9831	41S	57E	71	63	01m37s
2578-Jul-06	08:44:42	1529	376	7155	165	A	p-	0.8284	0.9753	79N	60E	34	159	01m45s
2578-Dec-29	21:04:02	1532	377	7161	170	T	t-	-0.9780	1.0201	78S	60E	11	357	01m02s
2579-May-26	20:04:26	1534	377	7166	137	P	-t	-1.2517	0.5320	64S	78W	0		
2579-Nov-20	02:21:40	1536	377	7172	142	P	-t	1.0466	0.9181	63N	168W	0		
2580-May-14	22:32:10	1538	378	7178	147	A	-p	-0.4743	0.9735	8S	143W	62	107	03m04s
2580-Nov-08	14:34:17	1541	378	7184	152	A	-p	0.3704	0.9883	3N	28W	68	44	01m15s
2581-May-04	07:51:48	1543	379	7190	157	T	n-	0.2950	1.0276	32N	60E	73	98	02m22s
2581-Oct-28	19:49:21	1545	380	7196	162	A	n-	-0.3627	0.9422	33S	125W	69	228	06m00s

2582-Apr-23	22:55:54	1548	380	7202	167	Tn	t-	0.9969	1.0462	63N	90E	2	-	02m17s
2582-Oct-17	19:49:08	1550	381	7208	172	P	t-	-1.0845	0.8129	61S	138E	0		
2583-Mar-15	05:25:50	1552	381	7213	139	T	-t	-0.9457	1.0109	57S	165E	18	115	00m42s
2583-Sep-07	09:08:59	1554	382	7219	144	P	-t	1.0160	0.9596	61N	150E	0		
2584-Mar-03	15:10:29	1557	382	7225	149	A	-n	-0.2581	0.9643	20S	31W	75	133	03m36s
2584-Aug-26	21:54:15	1559	383	7231	154	T	-n	0.2258	1.0573	21N	135W	77	194	04m43s
2585-Feb-20	17:31:54	1561	383	7237	159	A	p-	0.4550	0.9230	14N	85W	63	321	09m11s
2585-Aug-16	14:42:31	1564	384	7243	164	T	p-	-0.5094	1.0753	15S	46W	59	281	06m16s
2586-Feb-09	16:42:34	1566	384	7249	169	P	t-	1.1318	0.7320	62N	122W	0		
2586-Jul-07	22:07:04	1568	385	7254	136	P	-t	1.3270	0.3957	65N	6E	0		
2586-Aug-06	06:55:46	1569	385	7255	174	P	t-	-1.2717	0.4976	63S	29E	0		
2586-Dec-31	06:23:24	1571	385	7260	141	P	-t	-1.0904	0.8242	65S	112W	0		
2587-Jun-27	05:42:56	1573	386	7266	146	A	-p	0.6030	0.9656	60N	112E	53	156	02m58s
2587-Dec-20	20:04:47	1575	386	7272	151	T	-n	-0.3768	1.0428	46S	113W	68	154	03m22s
2588-Jun-15	07:06:18	1578	387	7278	156	A	nn	-0.1582	0.9463	14N	80E	81	200	07m21s
2588-Dec-09	11:53:26	1580	387	7284	161	T	n-	0.2973	1.0416	6S	6E	73	146	04m07s
2589-Jun-04	08:40:21	1582	388	7290	166	A	t-	-0.9054	0.9600	43S	57E	25	345	04m10s
2589-Nov-29	01:08:08	1585	388	7296	171	P	t-	1.0227	0.9448	68N	177E	0		
2590-Apr-25	06:57:44	1587	389	7301	138	P	-t	1.0476	0.9166	71N	51W	0		
2590-Oct-19	15:13:16	1589	389	7307	143	P	-t	-1.1411	0.7179	72S	168W	0		
2591-Apr-14	22:49:04	1592	390	7313	148	T	-n	0.3190	1.0637	28N	161W	71	220	05m19s
2591-Oct-08	15:02:46	1594	390	7319	153	A	-p	-0.4245	0.9393	30S	50W	65	247	07m00s
2592-Apr-03	14:48:30	1596	391	7325	158	T	n-	-0.3901	1.0378	16S	28W	67	137	03m32s
2592-Sep-26	18:46:59	1599	391	7331	163	A	p-	0.3261	0.9844	16N	91W	71	58	01m42s
2593-Mar-24	02:19:49	1601	392	7337	168	P	t-	-1.1544	0.7046	72S	122W	0		
2593-Aug-17	21:53:02	1603	392	7342	135	Pe	-t	-1.5141	0.0302	71S	171E	0		
2593-Sep-16	05:55:36	1604	392	7343	173	P	t-	1.0417	0.9286	72N	166W	0		
2594-Feb-11	12:02:15	1606	393	7348	140	P	-t	1.0922	0.7950	71N	35W	0		
2594-Aug-07	15:02:40	1608	393	7354	145	T	-p	-0.7928	1.0676	36S	49W	37	361	05m32s
2595-Jan-31	11:44:00	1610	394	7360	150	A	-n	0.3981	0.9352	6N	10E	67	263	08m42s
2595-Jul-28	06:18:16	1613	394	7366	155	T	nn	-0.0539	1.0343	16N	94E	87	116	03m30s
2596-Jan-20	17:21:59	1615	395	7372	160	A	n-	-0.3118	0.9862	38S	69W	72	51	01m20s
2596-Jul-16	15:30:47	1618	395	7378	165	A	p-	0.7487	0.9741	69N	34W	41	141	02m00s

2597-Jan-09	05:52:32	1620	396	7384	170	T	t-	-0.9712	1.0219	81S	95W	13	334	01m08s
2597-Jun-06	02:43:04	1622	396	7389	137	P	-t	-1.3273	0.4028	65S	174E	0		
2597-Jul-05	17:53:13	1622	396	7390	175	Pb	t-	1.5369	0.0438	67N	98E	0		
2597-Nov-30	10:54:06	1624	397	7395	142	P	-t	1.0654	0.8813	64N	55E	0		
2598-May-26	05:36:07	1627	397	7401	147	A	-p	-0.5415	0.9782	11S	111E	57	91	02m33s
2598-Nov-19	22:41:01	1629	398	7407	152	A	-p	0.3959	0.9825	3N	150W	67	67	01m57s
2599-May-15	15:28:42	1632	398	7413	157	T	n-	0.2369	1.0337	32N	51W	76	117	02m56s
2599-Nov-09	03:25:04	1634	399	7419	162	A	n-	-0.3282	0.9379	35S	123E	71	244	06m35s
2600-May-05	06:53:51	1636	399	7425	167	T	t-	0.9474	1.0552	68N	1E	18	579	02m57s
2600-Oct-29	03:09:32	1639	400	7431	172	P	t-	-1.0403	0.8864	62S	19E	0		

27TH CENTURY CE

In the 27th century CE the total number of solar eclipses will be 227 solar eclipses: 77 partial solar eclipses, 81 annular solar eclipses (73 central annular solar eclipses with two limits, 5 central annular solar eclipses with one limit, 3 non-central annular solar eclipses with one limit), 64 total solar eclipses (63 central total solar eclipses with two limits, 1 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 5 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
			GREATEST	S								°	km	
			ECLIPSE											
2601-Mar-26	13:43:52	1641	400	7436	139	T	-t	-0.9741	1.0091	58S	44E	12	142	00m35s
2601-Sep-18	16:30:36	1643	401	7442	144	P	-t	1.0746	0.8540	61N	31E	0		
2602-Mar-15	23:13:22	1646	402	7448	149	A	-n	-0.2815	0.9638	16S	151W	74	136	03m41s

2602-Sep-08	05:31:30	1648	402	7454	154	T	-n	0.2895	1.0572	21N	112E	73	196	04m39s
2603-Mar-05	01:21:14	1651	403	7460	159	A	p-	0.4344	0.9243	16N	157E	64	312	08m45s
2603-Aug-28	22:20:24	1653	403	7466	164	T	p-	-0.4425	1.0737	14S	160W	64	264	06m02s
2604-Feb-22	00:40:33	1656	404	7472	169	P	t-	1.1149	0.7610	61N	110E	0		
2604-Jul-19	05:14:29	1658	404	7477	136	P	-t	1.4062	0.2508	64N	110W	0		
2604-Aug-17	14:18:35	1658	404	7478	174	P	t-	-1.2057	0.6217	62S	90W	0		
2605-Jan-11	15:01:03	1660	405	7483	141	P	-t	-1.0928	0.8206	64S	109E	0		
2605-Jul-08	12:23:19	1662	405	7489	146	A	-p	0.6874	0.9626	64N	23E	46	186	03m03s
2606-Jan-01	04:53:54	1665	406	7495	151	T	-n	-0.3829	1.0428	45S	119E	67	155	03m20s
2606-Jun-27	13:34:37	1667	406	7501	156	A	nn	-0.0720	0.9477	19N	16W	86	193	06m52s
2606-Dec-21	20:37:54	1670	407	7507	161	T	n-	0.2888	1.0387	7S	125W	73	135	03m50s
2607-Jun-16	15:28:32	1672	407	7513	166	A	p-	-0.8258	0.9664	33S	48W	34	215	03m47s
2607-Dec-11	09:32:38	1675	408	7519	171	P	p-	1.0126	0.9608	67N	40E	0		
2608-May-06	14:45:30	1677	408	7524	138	P	-t	1.0955	0.8287	70N	179E	0		
2608-Jun-04	23:55:33	1677	408	7525	176	Pb	t-	-1.5249	0.0295	67S	169W	0		
2608-Oct-30	22:37:23	1679	409	7530	143	P	-t	-1.1829	0.6468	71S	68E	0		
2609-Apr-26	06:54:24	1682	409	7536	148	T	-n	0.3628	1.0665	34N	77E	69	233	05m23s
2609-Oct-19	22:18:03	1684	410	7542	153	A	-p	-0.4734	0.9375	37S	160W	62	263	06m53s
2610-Apr-15	22:55:06	1687	410	7548	158	T	n-	-0.3536	1.0387	10S	151W	69	138	03m44s
2610-Oct-09	02:17:25	1689	411	7554	163	A	n-	0.2736	0.9849	9N	154E	74	55	01m41s
2611-Apr-05	10:13:02	1692	411	7560	168	P	t-	-1.1251	0.7565	72S	106E	0		
2611-Sep-28	13:41:23	1694	412	7566	173	T	t-	0.9858	1.0280	70N	38E	9	629	01m42s
2612-Feb-23	19:55:48	1696	412	7571	140	P	-t	1.1077	0.7697	72N	167W	0		
2612-Aug-18	22:35:25	1699	413	7577	145	T	-t	-0.8629	1.0629	45S	168W	30	407	04m45s
2613-Feb-11	19:51:42	1701	413	7583	150	A	-n	0.4076	0.9382	10N	113W	66	250	08m00s
2613-Aug-08	13:32:03	1703	414	7589	155	T	nn	-0.1293	1.0300	9N	16W	83	102	03m07s
2614-Feb-01	01:55:13	1706	415	7595	160	A	n-	-0.3058	0.9897	35S	165E	72	38	01m00s
2614-Jul-28	22:14:46	1708	415	7601	165	A	p-	0.6680	0.9721	60N	133W	48	135	02m21s
2615-Jan-21	14:42:00	1711	416	7607	170	T	t-	-0.9651	1.0241	82S	98E	15	328	01m17s
2615-Jun-18	09:17:53	1713	416	7612	137	P	-t	-1.4053	0.2688	66S	65E	0		
2615-Jul-18	00:19:55	1713	416	7613	175	P	t-	1.4532	0.1871	68N	9W	0		
2615-Dec-12	19:30:52	1715	417	7618	142	P	-t	1.0802	0.8523	65N	83W	0		
2616-Jun-06	12:37:15	1718	417	7624	147	A	-p	-0.6115	0.9824	14S	5E	52	78	02m04s

2616-Dec-01	06:53:16	1720	418	7630	152	A	-p	0.4157	0.9772	2N	87E	65	89	02m39s
2617-May-26	23:01:02	1723	418	7636	157	T	n-	0.1741	1.0394	31N	162W	80	134	03m30s
2617-Nov-20	11:07:11	1725	419	7642	162	A	n-	-0.2995	0.9339	36S	10E	72	258	07m11s
2618-May-16	14:44:45	1728	419	7648	167	T	t-	0.8919	1.0612	71N	98W	27	447	03m24s
2618-Nov-09	10:39:29	1730	420	7654	172	A-	t-	-1.0033	0.9475	62S	102W	0		
2619-Apr-06	21:51:00	1732	420	7659	139	P	-t	-1.0108	0.9780	61S	62W	0		
2619-Sep-30	00:02:26	1735	421	7665	144	P	-t	1.1257	0.7619	61N	90W	0		
2620-Mar-26	07:06:09	1737	421	7671	149	A	-p	-0.3125	0.9636	14S	91E	72	138	03m46s
2620-Sep-18	13:15:45	1740	422	7677	154	T	-n	0.3477	1.0565	19N	3W	70	198	04m35s
2621-Mar-15	09:03:05	1742	422	7683	159	A	p-	0.4080	0.9260	19N	42E	66	301	08m20s
2621-Sep-08	06:02:17	1745	423	7689	164	T	n-	-0.3792	1.0713	14S	86E	68	249	05m45s
2622-Mar-04	08:34:40	1747	424	7695	169	P	t-	1.0945	0.7964	61N	16W	0		
2622-Jul-30	12:18:07	1750	424	7700	136	Pe	-t	1.4872	0.1039	63N	135E	0		
2622-Aug-28	21:41:57	1750	424	7701	174	P	t-	-1.1408	0.7426	62S	150E	0		
2623-Jan-22	23:41:22	1752	425	7706	141	P	-t	-1.0938	0.8199	63S	30W	0		
2623-Jul-19	19:00:03	1755	425	7712	146	A	-p	0.7739	0.9589	67N	61W	39	235	03m10s
2624-Jan-12	13:45:07	1757	426	7718	151	T	-n	-0.3875	1.0433	44S	10W	67	157	03m21s
2624-Jul-07	20:02:08	1760	426	7724	156	Am	nn	0.0151	0.9487	23N	111W	89	188	06m24s
2625-Jan-01	05:25:25	1762	427	7730	161	T	n-	0.2829	1.0361	7S	104E	74	126	03m32s
2625-Jun-26	22:15:41	1765	427	7736	166	A	p-	-0.7444	0.9720	25S	152W	42	150	03m16s
2625-Dec-21	18:00:10	1767	428	7742	171	P	p-	1.0057	0.9711	66N	97W	0		
2626-May-17	22:28:38	1769	428	7747	138	P	-t	1.1477	0.7317	69N	52E	0		
2626-Jun-16	07:13:23	1770	428	7748	176	P	t-	-1.4522	0.1622	66S	71E	0		
2626-Nov-11	06:08:42	1772	429	7753	143	P	-t	-1.2181	0.5873	70S	57W	0		
2627-May-07	14:52:02	1774	429	7759	148	T	-p	0.4129	1.0688	41N	42W	65	246	05m22s
2627-Oct-31	05:43:48	1777	430	7765	153	A	-p	-0.5140	0.9358	44S	88E	59	278	06m44s
2628-Apr-26	06:52:55	1779	430	7771	158	T	n-	-0.3104	1.0392	4S	88E	72	138	03m53s
2628-Oct-19	09:57:22	1782	431	7777	163	A	n-	0.2283	0.9854	3N	38E	77	53	01m39s
2629-Apr-15	17:56:35	1784	431	7783	168	P	t-	-1.0886	0.8210	71S	23W	0		
2629-Oct-08	21:35:27	1787	432	7789	173	T	t-	0.9362	1.0312	59N	108W	20	302	02m10s
2630-Mar-06	03:42:07	1789	432	7794	140	P	-t	1.1289	0.7350	72N	63E	0		
2630-Aug-30	06:10:50	1792	433	7800	145	T	-t	-0.9303	1.0568	56S	68E	21	514	03m53s
2631-Feb-23	03:55:08	1794	434	7806	150	A	-p	0.4211	0.9419	14N	125E	65	236	07m13s

2631-Aug-19	20:47:00	1797	434	7812	155	T	-n	-0.2025	1.0249	1N	126W	78	86	02m36s
2632-Feb-12	10:25:35	1799	435	7818	160	A	n-	-0.2968	0.9938	31S	39E	73	23	00m36s
2632-Aug-08	04:59:24	1802	435	7824	165	A	p-	0.5885	0.9695	51N	125E	54	136	02m49s
2633-Jan-31	23:31:22	1804	436	7830	170	T	t-	-0.9591	1.0266	80S	66W	16	332	01m27s
2633-Jun-28	15:48:38	1807	436	7835	137	Pe	-t	-1.4864	0.1291	67S	42W	0		
2633-Jul-28	06:45:11	1807	436	7836	175	P	t-	1.3678	0.3331	69N	117W	0		
2633-Dec-23	04:12:12	1809	437	7841	142	P	-t	1.0910	0.8312	66N	137E	0		
2634-Jun-17	19:34:20	1812	437	7847	147	A	-p	-0.6854	0.9862	20S	100W	47	67	01m35s
2634-Dec-12	15:11:11	1814	438	7853	152	A	-p	0.4304	0.9723	2N	38W	64	110	03m19s
2635-Jun-07	06:28:19	1817	438	7859	157	T	nn	0.1062	1.0447	29N	89E	84	150	04m04s
2635-Dec-01	18:56:52	1819	439	7865	162	A	nn	-0.2773	0.9302	37S	105W	74	272	07m47s
2636-May-26	22:30:51	1822	440	7871	167	T	p-	0.8321	1.0661	72N	164E	33	392	03m48s
2636-Nov-19	18:16:56	1824	440	7877	172	As	t-	-0.9719	0.9164	71S	162E	13	-	05m33s
2637-Apr-17	05:51:31	1827	441	7882	139	P	-t	-1.0526	0.9012	62S	170E	0		
2637-Oct-10	07:42:09	1829	441	7888	144	P	-t	1.1709	0.6802	61N	146E	0		
2638-Apr-06	14:50:14	1832	442	7894	149	A	-p	-0.3500	0.9635	12S	25W	69	140	03m52s
2638-Sep-29	21:06:35	1834	442	7900	154	T	-n	0.4007	1.0554	18N	120W	66	198	04m31s
2639-Mar-26	16:36:37	1837	443	7906	159	A	p-	0.3749	0.9281	21N	71W	68	288	07m58s
2639-Sep-19	13:50:21	1839	443	7912	164	T	n-	-0.3212	1.0683	15S	31W	71	234	05m28s
2640-Mar-14	16:21:07	1842	444	7918	169	P	t-	1.0671	0.8440	61N	141W	0		
2640-Sep-08	05:10:46	1845	444	7924	174	P	t-	-1.0806	0.8533	61S	30E	0		
2641-Feb-02	08:20:02	1847	445	7929	141	P	-t	-1.0971	0.8150	63S	169W	0		
2641-Jul-30	01:35:54	1849	445	7935	146	A	-t	0.8602	0.9545	68N	141W	30	326	03m20s
2642-Jan-22	22:36:31	1852	446	7941	151	T	-n	-0.3924	1.0443	41S	139W	67	160	03m24s
2642-Jul-19	02:27:51	1854	446	7947	156	A	nn	0.1040	0.9493	27N	155E	84	187	06m00s
2643-Jan-12	14:14:03	1857	447	7953	161	T	n-	0.2783	1.0341	6S	28W	74	119	03m18s
2643-Jul-08	05:00:54	1860	448	7959	166	A	p-	-0.6602	0.9768	18S	106E	49	109	02m44s
2644-Jan-02	02:31:04	1862	448	7965	171	A+	p-	1.0020	0.9760	65N	126E	0		
2644-May-28	06:05:55	1864	449	7970	138	P	-t	1.2052	0.6236	68N	73W	0		
2644-Jun-26	14:28:58	1865	449	7971	176	P	t-	-1.3766	0.3017	66S	48W	0		
2644-Nov-21	13:47:26	1867	449	7976	143	P	-t	-1.2469	0.5390	69S	176E	0		
2645-May-17	22:43:15	1870	450	7982	148	T	-p	0.4686	1.0707	47N	159W	62	261	05m17s
2645-Nov-10	13:18:34	1872	450	7988	153	A	-p	-0.5477	0.9344	50S	25W	57	293	06m35s



2646-May-07	14:41:43	1875	451	7994	158	T	n-	-0.2601	1.0396	2N	31W	75	137	04m00s
2646-Oct-30	17:46:56	1877	451	8000	163	A	n-	0.1902	0.9857	3S	81W	79	51	01m38s
2647-Apr-27	01:30:46	1880	452	8006	168	P	t-	-1.0450	0.8981	71S	150W	0		
2647-Oct-20	05:38:00	1883	452	8012	173	T	t-	0.8931	1.0324	51N	122E	26	243	02m27s
2648-Mar-16	11:21:51	1885	453	8017	140	P	-t	1.1552	0.6916	72N	66W	0		
2648-Sep-09	13:51:21	1887	453	8023	145	Ts	-t	-0.9930	1.0479	70S	80W	5	-	02m48s
2649-Mar-05	11:55:18	1890	454	8029	150	A	-p	0.4378	0.9460	19N	4E	64	220	06m25s
2649-Aug-30	04:03:52	1893	455	8035	155	T	-n	-0.2733	1.0194	6S	123E	74	69	02m01s
2650-Feb-22	18:53:57	1895	455	8041	160	A	n-	-0.2856	0.9984	26S	88W	73	6	00m09s
2650-Aug-19	11:45:20	1898	456	8047	165	A	p-	0.5109	0.9663	42N	22E	59	141	03m21s
2651-Feb-12	08:17:25	1900	456	8053	170	T	t-	-0.9502	1.0298	77S	139E	18	332	01m41s
2651-Aug-08	13:13:24	1903	457	8059	175	P	t-	1.2843	0.4758	70N	134E	0		
2652-Jan-03	12:55:40	1905	457	8064	142	P	-t	1.0995	0.8143	67N	4W	0		
2652-Jun-28	02:31:10	1908	458	8070	147	A	-p	-0.7603	0.9892	26S	154E	40	58	01m11s
2652-Dec-22	23:31:15	1911	458	8076	152	A	-p	0.4424	0.9680	3N	163W	64	128	03m56s
2653-Jun-17	13:53:03	1913	459	8082	157	T	nn	0.0356	1.0494	25N	20W	88	164	04m37s
2653-Dec-12	02:51:31	1916	460	8088	162	A	nn	-0.2599	0.9271	38S	140E	75	284	08m21s
2654-Jun-07	06:09:48	1918	460	8094	167	T	p-	0.7664	1.0703	71N	69E	40	358	04m12s
2654-Dec-01	02:03:26	1921	461	8100	172	A	t-	-0.9476	0.9165	76S	52E	18	1020	05m41s
2655-Apr-28	13:40:53	1923	461	8105	139	P	-t	-1.1024	0.8093	62S	44E	0		
2655-May-27	22:51:48	1924	461	8106	177	Pb	t-	1.5049	0.0545	64N	61E	0		
2655-Oct-21	15:32:10	1926	462	8111	144	P	-t	1.2084	0.6123	62N	21E	0		
2656-Apr-16	22:23:10	1929	462	8117	149	A	-p	-0.3958	0.9633	10S	137W	67	143	04m00s
2656-Oct-10	05:05:58	1931	463	8123	154	T	-n	0.4468	1.0539	17N	121E	63	197	04m28s
2657-Apr-06	00:01:44	1934	463	8129	159	A	n-	0.3349	0.9305	24N	178E	70	274	07m38s
2657-Sep-29	21:43:05	1936	464	8135	164	T	n-	-0.2675	1.0647	16S	148W	74	219	05m11s
2658-Mar-26	00:02:20	1939	464	8141	169	P	t-	1.0349	0.9004	61N	95E	0		
2658-Sep-19	12:42:50	1942	465	8147	174	P	t-	-1.0238	0.9565	61S	92W	0		
2659-Feb-13	16:57:13	1944	466	8152	141	P	-t	-1.1021	0.8072	62S	53E	0		
2659-Aug-10	08:11:48	1947	466	8158	146	A	-t	0.9455	0.9487	68N	146E	19	584	03m30s
2660-Feb-03	07:27:29	1949	467	8164	151	T	-n	-0.3978	1.0457	38S	90E	66	165	03m30s
2660-Jul-29	08:55:19	1952	467	8170	156	A	nn	0.1915	0.9495	29N	61E	79	189	05m42s
2661-Jan-22	23:02:20	1955	468	8176	161	T	n-	0.2739	1.0324	4S	160W	74	113	03m04s

2661-Jul-18	11:48:05	1957	468	8182	166	A	p-	-0.5766	0.9811	13S	3E	55	81	02m12s
2662-Jan-12	11:02:23	1960	469	8188	171	A+	p-	0.9996	0.9788	64N	11W	0		
2662-Jun-08	13:38:40	1962	469	8193	138	P	-t	1.2667	0.5067	67N	163E	0		
2662-Jul-07	21:43:20	1963	469	8194	176	P	t-	-1.2991	0.4461	65S	166W	0		
2662-Dec-02	21:32:52	1965	470	8199	143	P	-t	-1.2699	0.5006	68S	49E	0		
2663-May-29	06:28:18	1967	470	8205	148	T	-p	0.5296	1.0719	54N	88E	58	276	05m07s
2663-Nov-21	21:01:58	1970	471	8211	153	A	-p	-0.5747	0.9333	55S	138W	55	305	06m26s
2664-May-17	22:22:46	1973	472	8217	158	T	nn	-0.2040	1.0395	8N	147W	78	135	04m02s
2664-Nov-10	01:46:07	1975	472	8223	163	A	n-	0.1590	0.9861	8S	159E	81	50	01m36s
2665-May-07	08:55:06	1978	473	8229	168	As	t-	-0.9942	0.9668	66S	81E	4	-	02m35s
2665-Oct-30	13:48:28	1981	473	8235	173	T	p-	0.8563	1.0330	44N	7W	31	215	02m40s
2666-Mar-27	18:53:05	1983	474	8240	140	P	-t	1.1882	0.6370	72N	168E	0		
2666-Sep-20	21:37:05	1986	474	8246	145	P	-t	-1.0506	0.9185	72S	135E	0		
2666-Oct-20	05:56:25	1986	474	8247	183	Pb	t-	1.5196	0.0228	71N	153E	0		
2667-Mar-16	19:47:38	1988	475	8252	150	A	-p	0.4614	0.9506	25N	115W	62	203	05m36s
2667-Sep-10	11:25:03	1991	475	8258	155	H	-p	-0.3393	1.0134	14S	11E	70	49	01m22s
2668-Mar-05	03:17:06	1994	476	8264	160	H	n-	-0.2697	1.0035	21S	147E	74	13	00m21s
2668-Aug-29	18:33:46	1996	477	8270	165	A	p-	0.4359	0.9627	34N	81W	64	149	03m59s
2669-Feb-22	17:00:36	1999	477	8276	170	T	p-	-0.9390	1.0333	72S	8W	20	333	01m58s
2669-Aug-18	19:43:38	2002	478	8282	175	P	t-	1.2020	0.6162	71N	25E	0		
2670-Jan-13	21:41:05	2004	478	8287	142	P	-t	1.1062	0.8012	68N	146W	0		
2670-Jul-09	09:25:16	2007	479	8293	147	A	-p	-0.8380	0.9915	35S	47E	33	55	00m52s
2671-Jan-03	07:54:59	2009	479	8299	152	A	-p	0.4506	0.9643	4N	71E	63	144	04m27s
2671-Jun-28	21:15:27	2012	480	8305	157	T	nn	-0.0375	1.0534	21N	129W	88	177	05m07s
2671-Dec-23	10:50:29	2015	480	8311	162	A	nn	-0.2465	0.9246	38S	23E	76	294	08m52s
2672-Jun-17	13:46:14	2018	481	8317	167	T	p-	0.6987	1.0735	67N	30W	45	335	04m36s
2672-Dec-11	09:56:18	2020	482	8323	172	A	p-	-0.9286	0.9165	81S	60W	21	874	05m47s
2673-May-08	21:23:20	2022	482	8328	139	P	-t	-1.1574	0.7080	63S	80W	0		
2673-Jun-07	06:25:43	2023	482	8329	177	P	t-	1.4459	0.1666	65N	62W	0		
2673-Oct-31	23:29:52	2025	483	8334	144	P	-t	1.2404	0.5544	62N	107W	0		
2674-Apr-28	05:47:44	2028	483	8340	149	A	-p	-0.4477	0.9631	10S	112E	63	147	04m09s
2674-Oct-21	13:13:03	2031	484	8346	154	T	-p	0.4870	1.0522	15N	1W	61	196	04m25s
2675-Apr-17	07:16:45	2033	484	8352	159	A	nn	0.2867	0.9331	25N	71E	73	259	07m23s

2675-Oct-11	05:43:45	2036	485	8358	164	T	n-	-0.2206	1.0608	18S	93E	77	204	04m54s
2676-Apr-05	07:35:24	2039	486	8364	169	An	t-	0.9952	0.9336	62N	18W	4	-	04m25s
2676-Sep-29	20:20:50	2041	486	8370	174	T	t-	-0.9724	1.0089	60S	172E	13	134	00m33s
2677-Feb-24	01:29:53	2044	487	8375	141	P	-t	-1.1114	0.7915	62S	83W	0		
2677-Aug-20	14:50:15	2046	487	8381	146	P	-t	1.0278	0.9181	62N	80E	0		
2678-Feb-13	16:14:57	2049	488	8387	151	T	-n	-0.4063	1.0475	35S	40W	66	172	03m38s
2678-Aug-09	15:23:53	2052	488	8393	156	A	nn	0.2783	0.9492	30N	33W	74	194	05m30s
2679-Feb-03	07:48:58	2055	489	8399	161	T	n-	0.2684	1.0312	2S	69E	74	109	02m54s
2679-Jul-29	18:37:03	2057	489	8405	166	A	p-	-0.4932	0.9846	9S	99W	60	62	01m44s
2680-Jan-23	19:32:54	2060	490	8411	171	An	p-	0.9969	0.9636	62N	145W	2	-	02m46s
2680-Jun-18	21:08:06	2062	490	8416	138	P	-t	1.3315	0.3826	66N	40E	0		
2680-Jul-18	04:58:39	2063	491	8417	176	P	t-	-1.2212	0.5924	64S	76E	0		
2680-Dec-13	05:25:01	2065	491	8422	143	P	-t	-1.2875	0.4715	67S	79W	0		
2681-Jun-08	14:07:29	2068	492	8428	148	T	-p	0.5954	1.0724	60N	22W	53	294	04m54s
2681-Dec-02	04:53:52	2071	492	8434	153	A	-p	-0.5952	0.9326	59S	109E	53	314	06m18s
2682-May-29	05:56:11	2073	493	8440	158	T	nn	-0.1418	1.0390	14N	100E	82	132	03m59s
2682-Nov-21	09:54:28	2076	493	8446	163	A	n-	0.1350	0.9866	12S	37E	82	48	01m32s
2683-May-18	16:10:05	2079	494	8452	168	A	p-	-0.9365	0.9706	50S	44W	20	305	02m44s
2683-Nov-10	22:07:52	2082	495	8458	173	T	p-	0.8265	1.0331	38N	137W	34	198	02m49s
2684-Apr-07	02:17:14	2084	495	8463	140	P	-t	1.2266	0.5731	72N	43E	0		
2684-Oct-01	05:28:00	2087	496	8469	145	P	-t	-1.1036	0.8161	72S	3E	0		
2684-Oct-30	14:11:20	2087	496	8470	183	P	t-	1.4864	0.0877	71N	16E	0		
2685-Mar-27	03:35:07	2089	496	8475	150	A	-p	0.4895	0.9554	31N	126E	61	185	04m48s
2685-Sep-20	18:50:09	2092	497	8481	155	H	-p	-0.4012	1.0071	22S	103W	66	27	00m42s
2686-Mar-16	11:34:56	2095	497	8487	160	H	n-	-0.2485	1.0090	15S	21E	76	32	00m54s
2686-Sep-10	01:25:56	2098	498	8493	165	A	p-	0.3646	0.9587	25N	174E	68	160	04m41s
2687-Mar-06	01:38:10	2100	498	8499	170	T	p-	-0.9229	1.0374	67S	150W	22	330	02m19s
2687-Aug-30	02:19:43	2103	499	8505	175	P	t-	1.1238	0.7491	72N	87W	0		
2688-Jan-25	06:24:15	2105	500	8510	142	P	-t	1.1141	0.7859	69N	72E	0		
2688-Jul-19	16:22:29	2108	500	8516	147	A	-p	-0.9137	0.9926	46S	63W	24	64	00m41s
2689-Jan-13	16:18:38	2111	501	8522	152	A	-p	0.4578	0.9612	6N	56W	63	158	04m52s
2689-Jul-09	04:36:28	2114	501	8528	157	Tm	nn	-0.1123	1.0568	16N	121E	84	188	05m31s
2690-Jan-02	18:52:23	2116	502	8534	162	A	nn	-0.2360	0.9226	37S	94W	76	301	09m17s

2690-Jun-28	21:18:05	2119	502	8540	167	T	p-	0.6272	1.0759	62N	132W	51	317	05m00s
2690-Dec-22	17:55:27	2122	503	8546	172	A	p-	-0.9140	0.9168	85S	168W	24	794	05m52s
2691-May-20	04:55:07	2124	503	8551	139	P	-t	-1.2203	0.5921	63S	158E	0		
2691-Jun-18	13:52:29	2125	504	8552	177	P	t-	1.3817	0.2887	66N	177E	0		
2691-Nov-12	07:38:11	2127	504	8557	144	P	-t	1.2647	0.5104	63N	122E	0		
2691-Dec-11	21:05:50	2128	504	8558	182	Pb	t-	-1.5501	0.0115	65S	75E	0		
2692-May-08	13:02:00	2130	505	8563	149	A	-p	-0.5074	0.9627	11S	4E	59	155	04m21s
2692-Oct-31	21:27:37	2133	505	8569	154	T	-p	0.5212	1.0503	14N	124W	58	194	04m23s
2693-Apr-27	14:23:42	2135	506	8575	159	A	nn	0.2319	0.9359	26N	34W	76	245	07m12s
2693-Oct-21	13:50:34	2138	506	8581	164	T	n-	-0.1792	1.0566	20S	27W	80	189	04m37s
2694-Apr-16	15:01:07	2141	507	8587	169	A	t-	0.9488	0.9422	63N	107W	18	679	04m05s
2694-Oct-11	04:04:17	2144	508	8593	174	H	p-	-0.9263	1.0054	60S	66E	22	49	00m21s
2695-Mar-07	09:58:53	2146	508	8598	141	P	-t	-1.1242	0.7693	61S	141E	0		
2695-Aug-31	21:32:00	2149	509	8604	146	P	-t	1.1065	0.7816	61N	28W	0		
2696-Feb-25	00:58:45	2152	509	8610	151	T	-n	-0.4179	1.0496	31S	170W	65	180	03m48s
2696-Aug-19	21:57:53	2154	510	8616	156	A	-p	0.3608	0.9485	31N	129W	69	201	05m24s
2697-Feb-13	16:33:02	2157	510	8622	161	T	n-	0.2612	1.0305	1N	62W	75	106	02m46s
2697-Aug-09	01:29:20	2160	511	8628	166	A	p-	-0.4116	0.9877	7S	159E	66	47	01m20s
2698-Feb-03	04:01:17	2163	512	8634	171	An	p-	0.9932	0.9625	59N	85E	5	-	02m52s
2698-Jun-30	04:35:41	2165	512	8639	138	P	-t	1.3984	0.2539	65N	81W	0		
2698-Jul-29	12:15:52	2166	512	8640	176	P	t-	-1.1437	0.7386	63S	42W	0		
2698-Dec-24	13:21:05	2168	513	8645	143	P	-t	-1.3015	0.4484	66S	152E	0		
2699-Jun-19	21:42:29	2171	513	8651	148	T	-p	0.6645	1.0720	65N	128W	48	314	04m38s
2699-Dec-13	12:52:47	2174	514	8657	153	A	-p	-0.6106	0.9325	61S	3W	52	320	06m08s
2700-Jun-09	13:23:18	2176	514	8663	158	Tm	nn	-0.0752	1.0379	19N	12W	86	128	03m49s
2700-Dec-02	18:09:35	2179	515	8669	163	A	n-	0.1158	0.9874	15S	86W	83	45	01m26s

## 28TH CENTURY CE

In the 28th century CE the total number of solar eclipses will be 242 solar eclipses:

84 partial solar eclipses, 92 annular solar eclipses (90 central annular solar eclipses with two limits, 2 central annular solar eclipses with one limit, 0 non-central annular solar eclipses with one limit), 63 total solar eclipses (62 central total solar eclipses with two limits, 1 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 3 hybrid solar eclipses.

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°		WIDTH	DUR.
	GREATEST			S									°	km	
	ECLIPSE														
2701-May-29	23:16:44	2182	516	8675	168	A	p-	-0.8725	0.9720	39S	157W	29	206	02m54s	
2701-Nov-22	06:34:40	2185	516	8681	173	T	p-	0.8025	1.0331	33N	93E	36	187	02m56s	
2702-Apr-19	09:30:31	2187	517	8686	140	P	-t	1.2736	0.4941	71N	79W	0			
2702-Oct-13	13:25:50	2190	517	8692	145	P	-t	-1.1505	0.7260	72S	130W	0			
2702-Nov-11	22:34:28	2191	517	8693	183	P	t-	1.4600	0.1391	70N	122W	0			
2703-Apr-08	11:13:57	2193	518	8698	150	A	-p	0.5257	0.9605	37N	10E	58	167	04m01s	
2703-Oct-03	02:21:22	2196	518	8704	155	H	-p	-0.4571	1.0006	30S	142E	63	2	00m03s	
2704-Mar-27	19:45:54	2199	519	8710	160	H	n-	-0.2210	1.0148	10S	102W	77	52	01m29s	
2704-Sep-21	08:23:49	2201	520	8716	165	A	nn	0.2984	0.9545	17N	67E	73	173	05m26s	
2705-Mar-17	10:10:55	2204	520	8722	170	T	p-	-0.9030	1.0419	61S	73E	25	327	02m44s	
2705-Sep-10	08:59:51	2207	521	8728	175	P	t-	1.0483	0.8768	72N	159E	0			
2706-Feb-05	15:07:10	2209	521	8733	142	P	-t	1.1219	0.7712	70N	71W	0			
2706-Jul-31	23:20:36	2212	522	8739	147	A	-t	-0.9890	0.9911	63S	180W	7	241	00m41s	
2707-Jan-26	00:42:03	2215	522	8745	152	A	-p	0.4646	0.9587	8N	178E	62	169	05m08s	
2707-Jul-21	11:58:08	2218	523	8751	157	T	nn	-0.1871	1.0593	10N	11E	79	199	05m48s	
2708-Jan-15	02:56:15	2221	524	8757	162	A	nn	-0.2276	0.9212	35S	148E	77	306	09m38s	
2708-Jul-10	04:49:14	2224	524	8763	167	T	p-	0.5550	1.0774	56N	121E	56	302	05m22s	
2709-Jan-03	01:57:48	2226	525	8769	172	A	p-	-0.9017	0.9176	88S	147E	25	737	05m55s	
2709-May-31	12:21:15	2229	525	8774	139	P	-t	-1.2869	0.4696	64S	37E	0			
2709-Jun-29	21:16:21	2229	525	8775	177	P	t-	1.3156	0.4141	67N	56E	0			
2709-Nov-23	15:53:38	2232	526	8780	144	P	-t	1.2838	0.4758	64N	11W	0			

2709-Dec-23	05:25:42	2232	526	8781	182	P	t-	-1.5349	0.0373	66S	60W	0			
2710-May-20	20:07:00	2234	526	8786	149	A	-p	-0.5739	0.9620	14S	102W	55	166	04m34s	
2710-Nov-13	05:50:16	2237	527	8792	154	T	-p	0.5489	1.0485	14N	109E	57	191	04m20s	
2711-May-09	21:21:39	2240	528	8798	159	A	nn	0.1700	0.9385	26N	136W	80	231	07m05s	
2711-Nov-02	22:04:59	2243	528	8804	164	T	n-	-0.1447	1.0523	22S	150W	82	175	04m21s	
2712-Apr-27	22:19:05	2246	529	8810	169	A	t-	0.8955	0.9492	64N	156E	26	417	03m41s	
2712-Oct-22	11:55:14	2249	529	8816	174	H	p-	-0.8872	1.0009	61S	46W	27	6	00m03s	
2713-Mar-18	18:21:30	2251	530	8821	141	P	-t	-1.1428	0.7361	61S	8E	0			
2713-Sep-12	04:18:09	2254	530	8827	146	P	-t	1.1807	0.6535	61N	138W	0			
2714-Mar-08	09:37:11	2257	531	8833	151	T	-n	-0.4343	1.0520	28S	61E	64	189	04m01s	
2714-Sep-01	04:36:47	2260	532	8839	156	A	-p	0.4397	0.9474	31N	134E	64	213	05m24s	
2715-Feb-26	01:11:16	2263	532	8845	161	T	n-	0.2495	1.0302	4N	168E	76	105	02m42s	
2715-Aug-21	08:26:50	2265	533	8851	166	A	p-	-0.3332	0.9901	5S	56E	71	37	01m03s	
2716-Feb-15	12:26:23	2268	533	8857	171	An	p-	0.9874	0.9617	57N	45W	8	-	02m55s	
2716-Jul-11	12:01:40	2271	534	8862	138	Pe	-t	1.4666	0.1218	64N	158E	0			
2716-Aug-09	19:35:28	2271	534	8863	176	P	t-	-1.0674	0.8831	62S	161W	0			
2717-Jan-04	21:20:50	2274	535	8868	143	P	-t	-1.3123	0.4307	65S	22E	0			
2717-Jul-01	05:13:28	2276	535	8874	148	T	-p	0.7369	1.0707	69N	133E	42	342	04m20s	
2717-Dec-24	20:58:03	2279	536	8880	153	A	-p	-0.6211	0.9329	62S	117W	51	321	06m00s	
2718-Jun-20	20:43:12	2282	536	8886	158	T	nn	-0.0033	1.0362	23N	121W	90	122	03m34s	
2718-Dec-14	02:32:43	2285	537	8892	163	A	n-	0.1027	0.9885	17S	149E	84	41	01m17s	
2719-Jun-10	06:16:07	2288	537	8898	168	A	p-	-0.8032	0.9726	31S	95E	36	165	03m04s	
2719-Dec-03	15:07:58	2291	538	8904	173	T	p-	0.7836	1.0331	30N	38W	38	180	03m01s	
2720-Apr-29	16:37:14	2293	539	8909	140	P	-t	1.3258	0.4060	71N	162E	0			
2720-Oct-23	21:30:11	2296	539	8915	145	P	-t	-1.1917	0.6474	71S	96E	0			
2720-Nov-22	07:03:44	2297	539	8916	183	P	t-	1.4388	0.1807	69N	99E	0			
2721-Apr-18	18:47:23	2299	540	8921	150	A	-p	0.5666	0.9657	44N	104W	55	150	03m17s	
2721-Oct-13	09:57:36	2302	540	8927	155	A	-p	-0.5078	0.9940	37S	27E	59	24	00m34s	
2722-Apr-08	03:51:01	2305	541	8933	160	T	n-	-0.1880	1.0208	3S	135E	79	72	02m06s	
2722-Oct-02	15:28:03	2308	542	8939	165	A	nn	0.2383	0.9501	10N	41W	76	188	06m12s	
2723-Mar-28	18:35:40	2311	542	8945	170	T	p-	-0.8766	1.0465	55S	61W	28	321	03m13s	
2723-Sep-21	15:48:52	2313	543	8951	175	An	t-	0.9799	0.9291	70N	11E	11	-	05m24s	
2724-Feb-16	23:45:22	2316	543	8956	142	P	-t	1.1327	0.7510	71N	147E	0			

2724-Aug-11	06:23:23	2319	544	8962	147	P	-t	-1.0610	0.8796	70S	55E	0		
2725-Feb-05	09:01:58	2322	544	8968	152	A	-p	0.4734	0.9567	12N	52E	62	178	05m17s
2725-Jul-31	19:21:11	2325	545	8974	157	T	-n	-0.2611	1.0612	3N	101W	75	208	05m57s
2726-Jan-25	10:59:21	2327	546	8980	162	A	nn	-0.2188	0.9206	32S	30E	77	308	09m52s
2726-Jul-21	12:17:46	2330	546	8986	167	T	p-	0.4807	1.0780	49N	12E	61	288	05m43s
2727-Jan-14	10:03:49	2333	547	8992	172	A	p-	-0.8920	0.9189	84S	74E	26	691	05m57s
2727-Jun-11	19:38:58	2336	547	8997	139	P	-t	-1.3591	0.3371	65S	81W	0		
2727-Jul-11	04:36:02	2336	547	8998	177	P	t-	1.2467	0.5443	68N	64W	0		
2727-Dec-05	00:17:19	2339	548	9003	144	P	-t	1.2968	0.4520	64N	146W	0		
2728-Jan-03	13:50:30	2339	548	9004	182	P	t-	-1.5232	0.0568	67S	164E	0		
2728-May-31	03:03:52	2342	549	9009	149	A	-p	-0.6459	0.9608	17S	153E	50	185	04m48s
2728-Nov-23	14:20:43	2344	549	9015	154	T	-p	0.5701	1.0468	13N	19W	55	188	04m17s
2729-May-20	04:11:48	2347	550	9021	159	A	nn	0.1016	0.9412	26N	124E	84	219	07m01s
2729-Nov-13	06:26:07	2350	550	9027	164	T	n-	-0.1162	1.0480	24S	87E	83	161	04m05s
2730-May-09	05:30:50	2353	551	9033	169	A	p-	0.8363	0.9560	65N	59E	33	291	03m16s
2730-Nov-02	19:52:55	2356	552	9039	174	A	p-	-0.8541	0.9959	63S	162W	31	28	00m17s
2731-Mar-30	02:38:12	2359	552	9044	141	P	-t	-1.1670	0.6924	61S	125W	0		
2731-Apr-28	13:11:23	2359	552	9045	179	Pb	t-	1.5159	0.0519	62N	127W	0		
2731-Sep-23	11:10:43	2362	553	9050	146	P	-t	1.2491	0.5365	61N	110E	0		
2732-Mar-18	18:10:33	2364	553	9056	151	T	-n	-0.4552	1.0544	24S	67W	63	200	04m15s
2732-Sep-11	11:21:51	2367	554	9062	156	A	-p	0.5138	0.9461	31N	36E	59	227	05m29s
2733-Mar-08	09:44:47	2370	554	9068	161	T	n-	0.2342	1.0301	7N	40E	76	104	02m39s
2733-Aug-31	15:30:14	2373	555	9074	166	A	n-	-0.2587	0.9920	5S	49W	75	29	00m49s
2734-Feb-25	20:45:23	2376	556	9080	171	A	p-	0.9773	0.9615	56N	172W	11	673	02m55s
2734-Aug-21	02:59:11	2379	556	9086	176	Ts	t-	-0.9936	1.0332	59S	89E	5	-	02m08s
2735-Jan-16	05:21:33	2382	557	9091	143	P	-t	-1.3223	0.4142	64S	107W	0		
2735-Jul-12	12:43:08	2385	557	9097	148	T	-p	0.8101	1.0682	72N	39E	36	381	03m59s
2736-Jan-05	05:06:09	2387	558	9103	153	A	-p	-0.6300	0.9340	61S	129E	51	318	05m50s
2736-Jul-01	03:59:43	2390	559	9109	158	T	nn	0.0708	1.0339	27N	132E	86	114	03m15s
2736-Dec-24	11:00:54	2393	559	9115	163	A	n-	0.0927	0.9900	18S	24E	85	35	01m06s
2737-Jun-20	13:07:57	2396	560	9121	168	A	p-	-0.7281	0.9726	23S	10W	43	143	03m14s
2737-Dec-13	23:47:40	2399	560	9127	173	T	p-	0.7697	1.0332	27N	170W	39	176	03m04s
2738-May-10	23:34:28	2402	561	9132	140	P	-t	1.3856	0.3041	70N	46E	0		

2738-Jun-09	15:22:59	2402	561	9133	178	Pb	t-	-1.5104	0.0906	67S	42W	0			
2738-Nov-04	05:42:24	2405	562	9138	145	P	-t	-1.2260	0.5826	71S	40W	0			
2738-Dec-03	15:40:11	2405	562	9139	183	P	t-	1.4236	0.2103	68N	41W	0			
2739-Apr-30	02:11:53	2408	562	9144	150	A	-p	0.6158	0.9708	51N	144E	52	133	02m37s	
2739-Oct-24	17:41:45	2411	563	9150	155	A	-p	-0.5511	0.9874	44S	90W	56	53	01m08s	
2740-Apr-18	11:49:20	2414	563	9156	160	T	n-	-0.1486	1.0268	3N	15E	81	92	02m43s	
2740-Oct-12	22:38:21	2417	564	9162	165	A	nn	0.1837	0.9456	2N	150W	79	204	06m59s	
2741-Apr-08	02:54:47	2419	565	9168	170	T	p-	-0.8453	1.0513	48S	168E	32	317	03m46s	
2741-Oct-01	22:44:39	2422	565	9174	175	A	t-	0.9162	0.9303	59N	122W	23	651	06m14s	
2742-Feb-27	08:19:25	2425	566	9179	142	P	-t	1.1469	0.7249	72N	5E	0			
2742-Aug-22	13:29:52	2428	566	9185	147	P	-t	-1.1308	0.7533	71S	64W	0			
2743-Feb-16	17:18:51	2431	567	9191	152	A	-p	0.4843	0.9553	16N	73W	61	185	05m20s	
2743-Aug-12	02:47:37	2434	568	9197	157	T	-n	-0.3330	1.0623	4S	146E	71	216	05m56s	
2744-Feb-05	19:00:27	2437	568	9203	162	A	nn	-0.2085	0.9205	28S	89W	78	308	10m01s	
2744-Jul-31	19:48:22	2440	569	9209	167	T	p-	0.4081	1.0778	42N	100W	66	276	05m59s	
2745-Jan-24	18:10:35	2443	569	9215	172	A	p-	-0.8824	0.9207	79S	41W	28	646	05m58s	
2745-Jun-22	02:51:27	2445	570	9220	139	P	-t	-1.4346	0.1991	66S	161E	0			
2745-Jul-21	11:53:44	2446	570	9221	177	P	t-	1.1767	0.6761	69N	176E	0			
2745-Dec-15	08:47:05	2448	570	9226	144	P	-t	1.3057	0.4358	65N	78E	0			
2746-Jan-13	22:18:09	2449	571	9227	182	P	t-	-1.5132	0.0733	68S	27E	0			
2746-Jun-11	09:53:41	2451	571	9232	149	A	-p	-0.7227	0.9591	23S	50E	44	214	04m59s	
2746-Dec-04	22:57:36	2454	572	9238	154	T	-p	0.5865	1.0454	13N	149W	54	186	04m15s	
2747-May-31	10:54:34	2457	572	9244	159	A	nn	0.0270	0.9436	23N	26E	88	208	07m01s	
2747-Nov-24	14:54:26	2460	573	9250	164	T	nn	-0.0940	1.0438	26S	39W	84	147	03m49s	
2748-May-19	12:36:21	2463	574	9256	169	A	p-	0.7708	0.9624	65N	34W	39	213	02m53s	
2748-Nov-13	03:56:35	2466	574	9262	174	A	p-	-0.8265	0.9908	65S	82E	34	57	00m37s	
2749-Apr-09	10:47:44	2469	575	9267	141	P	-t	-1.1976	0.6362	61S	104E	0			
2749-May-08	20:49:40	2469	575	9268	179	P	t-	1.4606	0.1508	63N	110E	0			
2749-Oct-03	18:09:49	2472	575	9273	146	P	-t	1.3116	0.4304	61N	2W	0			
2750-Mar-30	02:35:22	2475	576	9279	151	T	-p	-0.4833	1.0570	22S	167E	61	212	04m31s	
2750-Sep-22	18:14:42	2478	576	9285	156	A	-p	0.5818	0.9445	31N	66W	54	246	05m40s	
2751-Mar-19	18:10:32	2481	577	9291	161	T	n-	0.2130	1.0303	10N	87W	78	105	02m38s	
2751-Sep-11	22:41:02	2484	578	9297	166	A	n-	-0.1894	0.9934	5S	156W	79	24	00m40s	



2752-Mar-08	04:57:51	2487	578	9303	171	A	p-	0.9626	0.9618	56N	64E	15	510	02m52s
2752-Aug-31	10:28:15	2490	579	9309	176	T	t-	-0.9235	1.0394	49S	7W	22	339	02m46s
2753-Jan-26	13:23:36	2492	579	9314	143	P	-t	-1.3312	0.3996	63S	124E	0		
2753-Jul-22	20:10:00	2495	580	9320	148	T	-t	0.8854	1.0646	72N	48W	27	458	03m35s
2754-Jan-15	13:18:41	2498	581	9326	153	A	-p	-0.6358	0.9356	58S	12E	50	310	05m39s
2754-Jul-12	11:11:54	2501	581	9332	158	T	nn	0.1480	1.0309	30N	27E	81	105	02m52s
2755-Jan-04	19:33:44	2504	582	9338	163	A	n-	0.0860	0.9920	18S	103W	85	28	00m52s
2755-Jul-01	19:55:33	2507	583	9344	168	A	p-	-0.6501	0.9720	17S	114W	49	132	03m24s
2755-Dec-25	08:32:16	2510	583	9350	173	T	p-	0.7594	1.0335	26N	56E	40	174	03m05s
2756-May-21	06:26:47	2513	584	9355	140	P	-t	1.4490	0.1954	69N	69W	0		
2756-Jun-19	21:57:04	2513	584	9356	178	P	t-	-1.4326	0.2231	66S	151W	0		
2756-Nov-14	13:59:49	2516	584	9361	145	P	-t	-1.2556	0.5270	70S	176W	0		
2756-Dec-14	00:20:27	2516	584	9362	183	P	t-	1.4119	0.2333	67N	179E	0		
2757-May-10	09:32:08	2519	585	9367	150	A	-p	0.6691	0.9758	59N	34E	48	116	02m01s
2757-Nov-04	01:31:48	2522	586	9373	155	A	-p	-0.5886	0.9811	50S	152E	54	83	01m39s
2758-Apr-29	19:40:28	2525	586	9379	160	T	nn	-0.1025	1.0328	9N	104W	84	111	03m18s
2758-Oct-24	05:56:55	2528	587	9385	165	A	nn	0.1364	0.9412	4S	99E	82	220	07m44s
2759-Apr-19	11:05:48	2531	587	9391	170	T	p-	-0.8070	1.0560	41S	40E	36	311	04m22s
2759-Oct-13	05:50:13	2534	588	9397	175	A	p-	0.8600	0.9301	49N	121E	30	509	07m00s
2760-Mar-09	16:45:52	2537	588	9402	142	P	-t	1.1667	0.6886	72N	135W	0		
2760-Apr-08	03:22:04	2537	589	9403	180	Pb	t-	-1.5099	0.0485	72S	152W	0		
2760-Sep-01	20:44:16	2540	589	9408	147	P	-t	-1.1948	0.6371	72S	174E	0		
2760-Oct-01	08:36:10	2540	589	9409	185	Pb	t-	1.5442	0.0178	72N	138E	0		
2761-Feb-27	01:29:36	2543	590	9414	152	A	-p	0.4994	0.9543	20N	163E	60	191	05m17s
2761-Aug-22	10:17:08	2546	590	9420	157	T	-n	-0.4025	1.0626	12S	31E	66	223	05m47s
2762-Feb-16	02:58:14	2549	591	9426	162	A	nn	-0.1958	0.9211	24S	152E	79	304	10m04s
2762-Aug-12	03:19:38	2552	592	9432	167	T	n-	0.3365	1.0766	34N	147E	70	263	06m11s
2763-Feb-05	02:16:44	2555	592	9438	172	A	p-	-0.8721	0.9233	74S	163W	29	596	05m58s
2763-Jul-03	09:58:20	2557	593	9443	139	Pe	-t	-1.5132	0.0561	67S	44E	0		
2763-Aug-01	19:10:31	2558	593	9444	177	P	t-	1.1065	0.8070	70N	55E	0		
2763-Dec-26	17:23:19	2560	593	9449	144	P	-t	1.3098	0.4282	66N	61W	0		
2764-Jan-25	06:48:10	2561	593	9450	182	P	t-	-1.5048	0.0866	69S	112W	0		
2764-Jun-21	16:37:00	2564	594	9455	149	A	-p	-0.8040	0.9568	30S	53W	36	265	05m06s

2764-Dec-15	07:39:59	2567	595	9461	154	T	-p	0.5984	1.0443	13N	79E	53	184	04m12s
2765-Jun-10	17:31:56	2570	595	9467	159	Am	nn	-0.0521	0.9459	20N	71W	87	200	07m02s
2765-Dec-04	23:28:43	2573	596	9473	164	T	nn	-0.0771	1.0398	27S	165W	85	134	03m33s
2766-May-30	19:36:00	2576	596	9479	169	A	p-	0.6995	0.9686	64N	126W	45	158	02m29s
2766-Nov-24	12:07:04	2579	597	9485	174	A	p-	-0.8053	0.9858	68S	35W	36	85	00m59s
2767-Apr-20	18:51:17	2581	598	9490	141	P	-t	-1.2336	0.5693	62S	25W	0		
2767-May-20	04:23:16	2582	598	9491	179	P	t-	1.4007	0.2594	63N	12W	0		
2767-Oct-15	01:16:19	2584	598	9496	146	P	-t	1.3673	0.3366	61N	117W	0		
2768-Apr-09	10:54:25	2587	599	9502	151	T	-p	-0.5162	1.0595	20S	42E	59	225	04m48s
2768-Oct-03	01:16:25	2591	599	9508	156	A	-p	0.6427	0.9428	31N	170W	50	269	05m54s
2769-Mar-30	02:29:29	2594	600	9514	161	T	n-	0.1865	1.0307	13N	149E	79	105	02m40s
2769-Sep-22	05:59:20	2597	601	9520	166	A	nn	-0.1254	0.9944	6S	96E	83	20	00m33s
2770-Mar-19	13:02:29	2600	601	9526	171	A	p-	0.9422	0.9624	56N	57W	19	401	02m48s
2770-Sep-11	18:04:07	2603	602	9532	176	T	t-	-0.8582	1.0422	46S	117W	31	269	03m00s
2771-Feb-06	21:22:09	2605	602	9537	143	P	-t	-1.3429	0.3802	62S	5W	0		
2771-Aug-03	03:38:31	2609	603	9543	148	T	-t	0.9591	1.0590	70N	131W	16	704	03m05s
2772-Jan-26	21:31:15	2612	604	9549	153	A	-p	-0.6427	0.9378	55S	107W	50	300	05m26s
2772-Jul-22	18:22:12	2615	604	9555	158	T	-n	0.2259	1.0272	32N	78W	77	95	02m27s
2773-Jan-15	04:08:30	2618	605	9561	163	A	n-	0.0800	0.9945	17S	129E	86	19	00m35s
2773-Jul-12	02:38:29	2621	606	9567	168	A	p-	-0.5686	0.9707	12S	145E	55	127	03m35s
2774-Jan-04	17:20:28	2624	606	9573	173	T	p-	0.7520	1.0342	25N	78W	41	174	03m07s
2774-Jun-01	13:10:06	2627	607	9578	140	Pe	-t	1.5197	0.0737	68N	180E	0		
2774-Jul-01	04:24:51	2627	607	9579	178	P	t-	-1.3489	0.3658	65S	102E	0		
2774-Nov-25	22:25:12	2630	607	9584	145	P	-t	-1.2785	0.4845	69S	46E	0		
2774-Dec-25	09:06:20	2630	607	9585	183	P	t-	1.4050	0.2470	66N	37E	0		
2775-May-21	16:45:17	2633	608	9590	150	A	-p	0.7292	0.9804	67N	73W	43	102	01m31s
2775-Nov-15	09:28:59	2636	609	9596	155	A	-p	-0.6196	0.9750	56S	35E	51	114	02m07s
2776-May-10	03:25:47	2639	609	9602	160	T	nn	-0.0507	1.0386	15N	139E	87	130	03m50s
2776-Nov-03	13:23:16	2642	610	9608	165	A	nn	0.0956	0.9369	10S	13W	85	236	08m25s
2777-Apr-29	19:10:06	2645	611	9614	170	T	p-	-0.7631	1.0607	34S	85W	40	307	05m00s
2777-Oct-23	13:04:16	2648	611	9620	175	A	p-	0.8101	0.9294	41N	7E	36	448	07m45s
2778-Mar-21	01:06:34	2651	612	9625	142	P	-t	1.1908	0.6445	72N	86E	0		
2778-Apr-19	11:29:50	2651	612	9626	180	P	t-	-1.4770	0.1102	71S	73E	0		

2778-Sep-13	04:05:00	2654	612	9631	147	P	-t	-1.2542	0.5290	72S	51E	0			
2778-Oct-12	16:03:24	2654	612	9632	185	P	t-	1.4901	0.1129	72N	13E	0			
2779-Mar-10	09:33:34	2657	613	9637	152	A	-p	0.5194	0.9537	26N	40E	59	196	05m10s	
2779-Sep-02	17:52:23	2660	614	9643	157	T	-p	-0.4677	1.0622	19S	85W	62	230	05m31s	
2780-Feb-27	10:51:51	2663	614	9649	162	A	nn	-0.1801	0.9221	19S	34E	80	299	10m03s	
2780-Aug-22	10:53:31	2666	615	9655	167	T	n-	0.2672	1.0747	26N	33E	74	251	06m16s	
2781-Feb-15	10:20:47	2669	615	9661	172	A	p-	-0.8594	0.9265	68S	73E	30	543	05m57s	
2781-Aug-12	02:27:36	2673	616	9667	177	P	t-	1.0372	0.9354	71N	66W	0			
2782-Jan-06	02:02:14	2675	617	9672	144	P	-t	1.3127	0.4227	68N	159E	0			
2782-Feb-04	15:16:41	2676	617	9673	182	P	t-	-1.4944	0.1036	70S	109E	0			
2782-Jul-02	23:15:14	2678	617	9678	149	A	-t	-0.8886	0.9534	40S	155W	27	373	05m06s	
2782-Dec-26	16:26:44	2681	618	9684	154	T	-p	0.6071	1.0435	14N	53W	53	183	04m10s	
2783-Jun-22	00:05:16	2685	619	9690	159	A	nn	-0.1348	0.9477	16N	168W	82	194	07m04s	
2783-Dec-16	08:07:05	2688	619	9696	164	T	nn	-0.0639	1.0362	27S	67E	86	122	03m18s	
2784-Jun-10	02:32:13	2691	620	9702	169	A	p-	0.6244	0.9744	61N	141E	51	118	02m07s	
2784-Dec-04	20:23:15	2694	620	9708	174	A	p-	-0.7896	0.9810	71S	150W	38	110	01m19s	
2785-May-01	02:47:01	2697	621	9713	141	P	-t	-1.2765	0.4886	62S	152W	0			
2785-May-30	11:50:32	2697	621	9714	179	P	t-	1.3346	0.3808	64N	133W	0			
2785-Oct-25	08:31:11	2700	622	9719	146	P	-t	1.4159	0.2555	62N	126E	0			
2785-Nov-24	01:44:23	2700	622	9720	184	Pb	t-	-1.5497	0.0272	64S	23E	0			
2786-Apr-20	19:04:43	2703	622	9725	151	T	-p	-0.5565	1.0617	19S	80W	56	241	05m05s	
2786-Oct-14	08:28:02	2706	623	9731	156	A	-p	0.6962	0.9410	31N	83E	46	296	06m11s	
2787-Apr-10	10:38:54	2709	623	9737	161	T	nn	0.1525	1.0310	16N	28E	81	106	02m43s	
2787-Oct-03	13:27:26	2712	624	9743	166	A	nn	-0.0685	0.9950	8S	15W	86	18	00m29s	
2788-Mar-29	20:59:23	2715	625	9749	171	A	p-	0.9158	0.9633	56N	175W	23	325	02m43s	
2788-Sep-22	01:45:47	2719	625	9755	176	T	p-	-0.7970	1.0439	44S	131E	37	237	03m08s	
2789-Feb-17	05:19:14	2721	626	9760	143	P	-t	-1.3558	0.3587	62S	132W	0			
2789-Aug-13	11:07:01	2724	627	9766	148	P	-t	1.0326	0.9579	62N	145E	0			
2789-Sep-11	18:18:47	2725	627	9767	186	Pb	t-	-1.4845	0.0864	61S	166W	0			
2790-Feb-06	05:44:11	2728	627	9772	153	A	-p	-0.6495	0.9407	52S	133E	49	286	05m12s	
2790-Aug-03	01:30:54	2731	628	9778	158	T	-p	0.3044	1.0228	34N	178E	72	81	02m00s	
2791-Jan-26	12:45:13	2734	628	9784	163	A	nn	0.0750	0.9975	15S	1E	86	9	00m15s	
2791-Jul-23	09:20:29	2737	629	9790	168	A	p-	-0.4869	0.9689	8S	45E	61	127	03m46s	

2792-Jan-16	02:09:54	2740	630	9796	173	T	p-	0.7454	1.0353	26N	148E	42	177	03m09s
2792-Jul-11	10:52:59	2743	630	9802	178	P	t-	-1.2650	0.5093	64S	4W	0		
2792-Dec-06	06:55:34	2746	631	9807	145	P	-t	-1.2974	0.4499	68S	92W	0		
2793-Jan-04	17:54:30	2746	631	9808	183	P	t-	1.4000	0.2569	65N	104W	0		
2793-May-31	23:54:27	2749	632	9813	150	A	-p	0.7933	0.9846	75N	174W	37	90	01m06s
2793-Nov-25	17:32:21	2752	632	9819	155	A	-p	-0.6448	0.9693	61S	82W	50	145	02m32s
2794-May-21	11:05:15	2755	633	9825	160	T	nn	0.0071	1.0441	21N	25E	89	147	04m16s
2794-Nov-14	20:57:51	2759	633	9831	165	Am	nn	0.0620	0.9329	15S	126W	87	251	09m02s
2795-May-11	03:06:43	2762	634	9837	170	T	p-	-0.7125	1.0649	27S	152E	44	302	05m37s
2795-Nov-03	20:29:00	2765	635	9843	175	A	p-	0.7682	0.9285	34N	109W	40	416	08m26s
2796-Mar-31	09:18:19	2768	635	9848	142	P	-t	1.2217	0.5882	72N	51W	0		
2796-Apr-29	19:28:54	2768	635	9849	180	P	t-	-1.4377	0.1841	70S	59W	0		
2796-Sep-23	11:33:39	2771	636	9854	147	P	-t	-1.3079	0.4309	72S	75W	0		
2796-Oct-22	23:40:05	2771	636	9855	185	P	t-	1.4425	0.1966	71N	114W	0		
2797-Mar-20	17:29:17	2774	637	9860	152	A	-p	0.5455	0.9534	32N	80W	57	202	05m00s
2797-Sep-13	01:33:02	2777	637	9866	157	T	-p	-0.5287	1.0611	27S	157E	58	235	05m11s
2798-Mar-09	18:37:50	2780	638	9872	162	A	nn	-0.1579	0.9239	13S	83W	81	291	09m57s
2798-Sep-02	18:30:48	2784	638	9878	167	T	n-	0.2008	1.0719	19N	82W	78	238	06m14s
2799-Feb-26	18:21:12	2787	639	9884	172	A	p-	-0.8431	0.9304	62S	51W	32	484	05m54s
2799-Aug-23	09:46:29	2790	640	9890	177	T	t-	0.9697	1.0204	75N	126E	13	299	01m11s
2800-Jan-17	10:43:54	2793	640	9895	144	P	-t	1.3141	0.4199	69N	18E	0		
2800-Feb-15	23:44:03	2793	640	9896	182	P	t-	-1.4823	0.1234	71S	30W	0		
2800-Jul-13	05:50:30	2796	641	9901	149	A	-t	-0.9748	0.9483	56S	100E	12	894	04m52s

## 29TH CENTURY CE

In the 29th century CE the total number of solar eclipses will be 254 solar eclipses: 95 partial solar eclipses, 87 annular solar eclipses (86 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 1 non-central annular

solar eclipses with one limit), 63 total solar eclipses (63 central total solar eclipses with two limits, 0 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 9 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
GREATEST		S										°	km	
ECLIPSE														
2801-Jan-06	01:17:27	2799	642	9907	154	T	-p	0.6128	1.0432	15N	173E	52	182	04m07s
2801-Jul-02	06:34:22	2802	642	9913	159	A	nn	-0.2211	0.9492	10N	95E	77	191	07m03s
2801-Dec-26	16:50:34	2805	643	9919	164	T	nn	-0.0554	1.0328	27S	61W	87	111	03m04s
2802-Jun-21	09:25:26	2809	643	9925	169	A	p-	0.5460	0.9798	56N	46E	57	86	01m46s
2802-Dec-16	04:44:22	2812	644	9931	174	A	p-	-0.7784	0.9766	73S	97E	39	134	01m39s
2803-May-12	10:37:17	2814	645	9936	141	P	-t	-1.3244	0.3975	63S	82E	0		
2803-Jun-10	19:15:08	2815	645	9937	179	P	t-	1.2653	0.5093	65N	107E	0		
2803-Nov-05	15:54:31	2818	645	9942	146	P	-t	1.4572	0.1870	62N	7E	0		
2803-Dec-05	09:36:30	2818	645	9943	184	P	t-	-1.5311	0.0604	65S	104W	0		
2804-May-01	03:09:20	2821	646	9948	151	T	-p	-0.6019	1.0636	19S	159E	53	257	05m21s
2804-Oct-24	15:47:58	2824	647	9954	156	A	-p	0.7433	0.9393	31N	27W	42	327	06m30s
2805-Apr-20	18:41:05	2827	647	9960	161	T	nn	0.1129	1.0313	18N	92W	83	106	02m46s
2805-Oct-13	21:04:26	2830	648	9966	166	A	nn	-0.0180	0.9954	9S	128W	89	16	00m27s
2806-Apr-10	04:45:27	2834	648	9972	171	A	p-	0.8814	0.9644	57N	72E	28	268	02m39s
2806-Oct-03	09:36:08	2837	649	9978	176	T	p-	-0.7425	1.0447	45S	15E	42	219	03m10s
2807-Feb-28	13:10:04	2840	650	9983	143	P	-t	-1.3737	0.3287	61S	102E	0		
2807-Aug-24	18:39:24	2843	650	9989	148	P	-t	1.1023	0.8226	62N	24E	0		
2807-Sep-23	02:08:06	2843	650	9990	186	P	t-	-1.4295	0.1935	61S	68E	0		
2808-Feb-17	13:53:33	2846	651	9995	153	A	-p	-0.6601	0.9441	48S	12E	48	271	04m56s
2808-Aug-13	08:40:52	2849	652	10001	158	T	-p	0.3810	1.0178	35N	74E	67	66	01m32s
2809-Feb-05	21:20:54	2852	652	10007	163	H	nn	0.0684	1.0011	12S	127W	86	4	00m06s
2809-Aug-02	15:59:39	2856	653	10013	168	A	p-	-0.4032	0.9665	5S	55W	66	131	03m58s
2810-Jan-26	11:00:50	2859	654	10019	173	T	p-	0.7397	1.0369	27N	13E	42	182	03m11s

2810-Jul-22	17:18:33	2862	654	10025	178	P	t-	-1.1780	0.6580	63S	109W	0			
2810-Dec-17	15:31:42	2865	655	10030	145	P	-t	-1.3112	0.4247	66S	129E	0			
2811-Jan-16	02:44:37	2865	655	10031	183	P	t-	1.3970	0.2630	64N	114E	0			
2811-Jun-12	06:58:43	2868	655	10036	150	A	-p	0.8624	0.9880	83N	101E	30	84	00m47s	
2811-Dec-07	01:42:15	2871	656	10042	155	A	-p	-0.6642	0.9640	64S	163E	48	175	02m55s	
2812-May-31	18:39:54	2875	657	10048	160	Tm	nn	0.0695	1.0493	26N	88W	86	164	04m36s	
2812-Nov-25	04:38:58	2878	657	10054	165	A	nn	0.0341	0.9292	19S	119E	88	266	09m33s	
2813-May-21	10:57:34	2881	658	10060	170	T	p-	-0.6570	1.0688	21S	31E	49	297	06m11s	
2813-Nov-14	04:02:19	2884	659	10066	175	A	p-	0.7330	0.9277	29N	135E	43	398	09m04s	
2814-Apr-11	17:21:32	2887	659	10071	142	P	-t	1.2589	0.5203	72N	175E	0			
2814-May-11	03:19:38	2888	659	10072	180	P	t-	-1.3922	0.2697	70S	171E	0			
2814-Oct-04	19:10:39	2890	660	10077	147	P	-t	-1.3555	0.3439	72S	157E	0			
2814-Nov-03	07:26:36	2891	660	10078	185	P	t-	1.4020	0.2680	71N	117E	0			
2815-Apr-01	01:17:03	2893	660	10083	152	A	-p	0.5775	0.9532	38N	161E	55	208	04m48s	
2815-Sep-24	09:20:23	2897	661	10089	157	T	-p	-0.5845	1.0596	35S	38E	54	240	04m48s	
2816-Mar-20	02:17:30	2900	662	10095	162	A	nn	-0.1307	0.9259	7S	162E	82	281	09m47s	
2816-Sep-13	02:13:11	2903	662	10101	167	T	nn	0.1390	1.0686	11N	160E	82	226	06m06s	
2817-Mar-09	02:16:50	2906	663	10107	172	A	p-	-0.8223	0.9348	56S	174W	34	425	05m49s	
2817-Sep-02	17:07:34	2910	664	10113	177	T	p-	0.9047	1.0186	67N	24W	25	150	01m14s	
2818-Jan-27	19:25:55	2912	664	10118	144	P	-t	1.3157	0.4166	70N	124W	0			
2818-Feb-26	08:07:41	2913	664	10119	182	P	t-	-1.4667	0.1494	72S	169W	0			
2818-Jul-24	12:24:16	2916	665	10124	149	P	-t	-1.0609	0.8614	69S	13W	0			
2819-Jan-17	10:08:33	2919	666	10130	154	T	-p	0.6180	1.0433	17N	39E	52	184	04m04s	
2819-Jul-13	13:03:12	2922	666	10136	159	A	np	-0.3076	0.9502	4N	3W	72	192	06m58s	
2820-Jan-07	01:36:07	2926	667	10142	164	Tm	nn	-0.0494	1.0300	25S	169E	87	102	02m51s	
2820-Jul-01	16:16:59	2929	667	10148	169	A	p-	0.4651	0.9847	51N	51W	62	61	01m24s	
2820-Dec-26	13:08:50	2932	668	10154	174	A	p-	-0.7708	0.9725	74S	15W	39	156	01m59s	
2821-May-22	18:20:58	2935	669	10159	141	P	-t	-1.3780	0.2948	64S	43W	0			
2821-Jun-21	02:35:47	2935	669	10160	179	P	t-	1.1921	0.6464	66N	13W	0			
2821-Nov-15	23:26:39	2938	669	10165	146	P	-t	1.4912	0.1313	63N	115W	0			
2821-Dec-15	17:34:50	2939	669	10166	184	P	t-	-1.5176	0.0846	65S	127E	0			
2822-May-12	11:04:30	2941	670	10171	151	T	-p	-0.6550	1.0650	20S	40E	49	278	05m34s	
2822-Nov-04	23:19:08	2945	671	10177	156	A	-p	0.7817	0.9376	32N	140W	38	362	06m49s	

2823-May-02	02:34:01	2948	671	10183	161	Tm	nn	0.0661	1.0314	19N	152E	86	106	02m51s
2823-Oct-25	04:50:54	2951	672	10189	166	A	nn	0.0253	0.9957	11S	116E	89	15	00m26s
2824-Apr-20	12:23:17	2954	673	10195	171	A	p-	0.8409	0.9654	59N	38W	32	228	02m35s
2824-Oct-13	17:34:13	2958	673	10201	176	T	p-	-0.6941	1.0449	46S	102W	46	205	03m10s
2825-Mar-10	20:56:40	2960	674	10206	143	P	-t	-1.3949	0.2929	61S	23W	0		
2825-Sep-04	02:13:38	2964	674	10212	148	P	-t	1.1701	0.6919	61N	98W	0		
2825-Oct-03	10:02:38	2964	675	10213	186	P	t-	-1.3788	0.2918	61S	59W	0		
2826-Feb-27	22:00:56	2967	675	10218	153	A	-p	-0.6730	0.9480	44S	109W	47	254	04m38s
2826-Aug-24	15:52:11	2970	676	10224	158	H	-p	0.4558	1.0123	35N	30W	63	47	01m03s
2827-Feb-17	05:54:40	2974	676	10230	163	H	nn	0.0593	1.0052	9S	105E	87	18	00m30s
2827-Aug-13	22:41:06	2977	677	10236	168	A	pn	-0.3218	0.9637	3S	154W	71	138	04m12s
2828-Feb-06	19:50:40	2980	678	10242	173	T	p-	0.7327	1.0388	28N	121W	43	188	03m15s
2828-Aug-01	23:45:32	2984	678	10248	178	P	t-	-1.0916	0.8057	63S	145E	0		
2828-Dec-28	00:10:16	2986	679	10253	145	P	-t	-1.3229	0.4037	65S	11W	0		
2829-Jan-26	11:34:08	2987	679	10254	183	P	t-	1.3938	0.2694	63N	27W	0		
2829-Jun-22	14:01:22	2990	680	10259	150	A	-p	0.9335	0.9904	83N	97E	21	97	00m35s
2829-Dec-17	09:56:15	2993	680	10265	155	A	-p	-0.6793	0.9594	66S	48E	47	202	03m15s
2830-Jun-12	02:09:51	2996	681	10271	160	T	nn	0.1365	1.0538	31N	161E	82	180	04m50s
2830-Dec-06	12:27:14	3000	682	10277	165	A	nn	0.0123	0.9261	22S	3E	89	278	09m57s
2831-Jun-01	18:42:30	3003	682	10283	170	T	p-	-0.5963	1.0720	15S	87W	53	292	06m39s
2831-Nov-25	11:44:02	3006	683	10289	175	A	p-	0.7040	0.9270	24N	17E	45	386	09m32s
2832-Apr-22	01:15:27	3009	683	10294	142	P	-t	1.3032	0.4396	71N	43E	0		
2832-May-21	11:02:55	3009	684	10295	180	P	t-	-1.3410	0.3663	69S	44E	0		
2832-Oct-15	02:57:17	3012	684	10300	147	P	-t	-1.3963	0.2695	72S	27E	0		
2832-Nov-13	15:23:00	3013	684	10301	185	P	t-	1.3683	0.3273	70N	14W	0		
2833-Apr-11	08:54:08	3016	685	10306	152	A	-p	0.6178	0.9531	45N	45E	52	217	04m34s
2833-Oct-04	17:14:52	3019	685	10312	157	T	-p	-0.6348	1.0576	42S	84W	50	244	04m23s
2834-Mar-31	09:48:12	3022	686	10318	162	A	nn	-0.0959	0.9284	1S	48E	84	270	09m32s
2834-Sep-24	10:01:18	3026	687	10324	167	T	nn	0.0823	1.0647	4N	42E	85	212	05m51s
2835-Mar-20	10:06:02	3029	687	10330	172	A	p-	-0.7954	0.9398	50S	65E	37	365	05m41s
2835-Sep-14	00:33:14	3032	688	10336	177	T	p-	0.8440	1.0151	57N	149W	32	96	01m07s
2836-Feb-08	04:08:17	3035	689	10341	144	P	-t	1.3176	0.4129	70N	93E	0		
2836-Mar-08	16:28:16	3036	689	10342	182	P	t-	-1.4479	0.1812	72S	52E	0		

2836-Aug-03	18:56:29	3038	689	10347	149	P	-t	-1.1474	0.7115	70S	122W	0		
2837-Jan-27	19:01:12	3042	690	10353	154	T	-p	0.6224	1.0438	20N	96W	51	187	04m02s
2837-Jul-23	19:31:07	3045	691	10359	159	A	-p	-0.3949	0.9508	3S	101W	67	196	06m47s
2838-Jan-17	10:23:32	3048	691	10365	164	T	nn	-0.0449	1.0277	23S	39E	87	94	02m39s
2838-Jul-12	23:08:11	3052	692	10371	169	A	p-	0.3827	0.9891	44N	151W	67	42	01m03s
2839-Jan-06	21:36:00	3055	693	10377	174	A	p-	-0.7660	0.9690	73S	127W	40	175	02m17s
2839-Jun-03	02:01:13	3058	693	10382	141	P	-t	-1.4351	0.1847	65S	167W	0		
2839-Jul-02	09:56:26	3058	693	10383	179	P	t-	1.1177	0.7871	67N	133W	0		
2839-Nov-27	07:05:10	3061	694	10388	146	P	-t	1.5199	0.0846	64N	122E	0		
2839-Dec-27	01:35:53	3062	694	10389	184	P	t-	-1.5065	0.1045	67S	3W	0		
2840-May-22	18:55:18	3064	694	10394	151	T	-p	-0.7119	1.0657	23S	79W	44	303	05m41s
2840-Nov-15	06:58:55	3068	695	10400	156	A	-p	0.8136	0.9363	33N	103E	35	399	07m05s
2841-May-12	10:18:30	3071	696	10406	161	T	nn	0.0128	1.0312	19N	37E	89	105	02m55s
2841-Nov-04	12:46:57	3074	696	10412	166	A	nn	0.0615	0.9959	12S	2W	87	14	00m25s
2842-May-01	19:50:31	3078	697	10418	171	A	p-	0.7925	0.9664	60N	144W	37	197	02m33s
2842-Oct-25	01:41:20	3081	698	10424	176	T	p-	-0.6526	1.0447	47S	139E	49	195	03m09s
2843-Mar-22	04:34:07	3084	698	10429	143	P	-t	-1.4236	0.2442	61S	145W	0		
2843-Apr-20	22:09:19	3085	698	10430	181	Pb	t-	1.5547	0.0208	62N	108E	0		
2843-Sep-15	09:53:56	3087	699	10435	148	P	-t	1.2325	0.5723	61N	138E	0		
2843-Oct-14	18:05:25	3088	699	10436	186	P	t-	-1.3350	0.3765	62S	172E	0		
2844-Mar-10	06:02:45	3091	700	10441	153	A	-p	-0.6914	0.9523	41S	131E	46	236	04m18s
2844-Sep-03	23:05:33	3094	700	10447	158	H	-p	0.5279	1.0063	34N	136W	58	25	00m32s
2845-Feb-27	14:24:58	3097	701	10453	163	H	nn	0.0467	1.0098	6S	22W	87	34	00m55s
2845-Aug-24	05:23:01	3101	702	10459	168	A	nn	-0.2411	0.9603	2S	107E	76	148	04m30s
2846-Feb-17	04:37:34	3104	702	10465	173	T	p-	0.7232	1.0414	30N	105E	43	196	03m20s
2846-Aug-13	06:13:59	3108	703	10471	178	A-	t-	-1.0057	0.9523	62S	40E	0		
2847-Jan-08	08:52:20	3110	704	10476	145	P	-t	-1.3314	0.3885	64S	151W	0		
2847-Feb-06	20:22:46	3111	704	10477	183	P	t-	1.3903	0.2761	62N	168W	0		
2847-Jul-03	21:02:23	3114	704	10482	150	P	-t	1.0067	0.9774	65N	32E	0		
2847-Dec-28	18:13:37	3117	705	10488	155	A	-p	-0.6911	0.9553	66S	66W	46	227	03m34s
2848-Jun-22	09:37:33	3120	706	10494	160	T	-n	0.2062	1.0578	35N	51E	78	195	04m57s
2848-Dec-16	20:21:16	3124	706	10500	165	A	nn	-0.0046	0.9233	24S	114W	90	289	10m13s
2849-Jun-12	02:21:51	3127	707	10506	170	T	p-	-0.5309	1.0747	9S	157E	58	286	07m00s



2849-Dec-05	19:34:15	3131	708	10512	175	A	p-	0.6813	0.9266	21N	102W	47	377	09m51s
2850-May-03	09:00:57	3133	708	10517	142	P	-t	1.3538	0.3474	70N	85W	0		
2850-Jun-01	18:39:20	3134	708	10518	180	P	t-	-1.2846	0.4729	68S	81W	0		
2850-Oct-26	10:52:44	3137	709	10523	147	P	-t	-1.4306	0.2067	71S	104W	0		
2850-Nov-24	23:27:50	3137	709	10524	185	P	t-	1.3406	0.3760	69N	147W	0		
2851-Apr-22	16:22:27	3140	709	10529	152	A	-p	0.6645	0.9529	52N	68W	48	230	04m20s
2851-Oct-16	01:17:23	3144	710	10535	157	T	-p	-0.6787	1.0553	50S	153E	47	248	04m00s
2852-Apr-10	17:11:57	3147	711	10541	162	A	nn	-0.0554	0.9311	5N	64W	87	258	09m13s
2852-Oct-04	17:54:40	3150	711	10547	167	Tm	nn	0.0304	1.0604	3S	78W	88	198	05m31s
2853-Mar-30	17:49:17	3154	712	10553	172	A	p-	-0.7630	0.9452	43S	55W	40	309	05m29s
2853-Sep-24	08:03:28	3157	713	10559	177	H3	p-	0.7879	1.0107	48N	91E	38	59	00m52s
2854-Feb-18	12:46:40	3160	713	10564	144	P	-t	1.3233	0.4020	71N	49W	0		
2854-Mar-20	00:41:32	3161	713	10565	182	P	t-	-1.4227	0.2248	72S	85W	0		
2854-Aug-15	01:30:58	3163	714	10570	149	P	-t	-1.2310	0.5672	71S	127E	0		
2855-Feb-08	03:51:18	3167	715	10576	154	T	-p	0.6289	1.0448	23N	130E	51	191	04m00s
2855-Aug-04	02:01:57	3170	715	10582	159	A	-p	-0.4802	0.9510	11S	160E	61	204	06m31s
2856-Jan-28	19:09:05	3174	716	10588	164	T	nn	-0.0394	1.0258	20S	91W	88	88	02m30s
2856-Jul-23	06:01:05	3177	717	10594	169	A	p-	0.3008	0.9929	37N	108E	72	26	00m43s
2857-Jan-17	06:04:00	3180	717	10600	174	A	p-	-0.7626	0.9660	70S	117E	40	191	02m34s
2857-Jun-13	09:35:01	3183	718	10605	141	Pe	-t	-1.4974	0.0636	66S	70E	0		
2857-Jul-12	17:14:19	3184	718	10606	179	P	t-	1.0402	0.9343	68N	107E	0		
2857-Dec-07	14:52:18	3187	719	10611	146	P	-t	1.5412	0.0501	65N	4W	0		
2858-Jan-06	09:41:19	3187	719	10612	184	P	t-	-1.4993	0.1175	68S	134W	0		
2858-Jun-03	02:37:53	3190	719	10617	151	T	-p	-0.7751	1.0656	28S	165E	39	338	05m38s
2858-Nov-26	14:48:28	3194	720	10623	156	A	-p	0.8378	0.9354	34N	16W	33	435	07m17s
2859-May-23	17:54:31	3197	721	10629	161	T	nn	-0.0467	1.0305	18N	75W	87	103	02m58s
2859-Nov-15	20:52:35	3200	721	10635	166	A	nn	0.0902	0.9962	14S	122W	85	13	00m23s
2860-May-12	03:09:17	3204	722	10641	171	A	p-	0.7377	0.9674	61N	114E	42	173	02m33s
2860-Nov-04	09:55:23	3207	723	10647	176	T	p-	-0.6167	1.0441	50S	18E	52	186	03m07s
2861-Apr-01	12:05:59	3210	723	10652	143	P	-t	-1.4567	0.1879	61S	94E	0		
2861-May-01	05:17:12	3211	723	10653	181	P	t-	1.5030	0.1070	62N	8W	0		
2861-Sep-25	17:38:10	3213	724	10658	148	P	-t	1.2913	0.4606	61N	14E	0		
2861-Oct-25	02:14:27	3214	724	10659	186	P	t-	-1.2963	0.4506	62S	42E	0		

2862-Mar-21	13:59:04	3217	725	10664	153	A	-p	-0.7149	0.9570	38S	11E	44	218	03m55s
2862-Sep-15	06:23:04	3220	725	10670	158	A	-p	0.5956	0.9999	34N	117E	53	0	00m01s
2863-Mar-10	22:51:04	3224	726	10676	163	H	nn	0.0298	1.0147	2S	148W	88	50	01m21s
2863-Sep-04	12:09:09	3227	727	10682	168	A	nn	-0.1645	0.9567	2S	7E	81	159	04m50s
2864-Feb-28	13:20:32	3231	727	10688	173	T	p-	0.7104	1.0442	32N	27W	45	205	03m26s
2864-Aug-23	12:47:13	3234	728	10694	178	A	t-	-0.9230	0.9378	48S	35W	22	586	05m47s
2865-Jan-18	17:34:16	3237	728	10699	145	P	-t	-1.3398	0.3736	64S	70E	0		
2865-Feb-17	05:07:38	3238	729	10700	183	P	t-	1.3843	0.2875	62N	53E	0		
2865-Jul-14	04:02:58	3240	729	10705	150	P	-t	1.0809	0.8445	64N	82W	0		
2866-Jan-08	02:33:03	3244	730	10711	155	A	-p	-0.7007	0.9518	65S	178E	45	248	03m51s
2866-Jul-03	17:03:12	3247	731	10717	160	T	-n	0.2785	1.0610	39N	57W	74	209	04m59s
2866-Dec-28	04:18:55	3251	731	10723	165	A	nn	-0.0184	0.9213	24S	129E	89	298	10m19s
2867-Jun-23	09:57:31	3254	732	10729	170	T	p-	-0.4621	1.0766	4S	42E	62	279	07m10s
2867-Dec-17	03:31:24	3258	733	10735	175	A	p-	0.6634	0.9266	18N	137E	48	369	09m55s
2868-May-13	16:37:02	3261	733	10740	142	P	-t	1.4112	0.2429	69N	149E	0		
2868-Jun-12	02:08:50	3261	733	10741	180	P	t-	-1.2229	0.5891	67S	156E	0		
2868-Nov-05	18:57:04	3264	734	10746	147	P	-t	-1.4586	0.1555	70S	122E	0		
2868-Dec-05	07:40:50	3265	734	10747	185	P	t-	1.3187	0.4145	68N	79E	0		
2869-May-02	23:40:18	3267	734	10752	152	A	-p	0.7192	0.9525	60N	179W	44	250	04m05s
2869-Oct-26	09:28:02	3271	735	10758	157	T	-p	-0.7160	1.0528	56S	29E	44	250	03m38s
2870-Apr-22	00:24:51	3274	736	10764	162	A	nn	-0.0061	0.9340	12N	173W	90	246	08m47s
2870-Oct-16	01:55:37	3278	737	10770	167	T	nn	-0.0148	1.0557	10S	161E	89	184	05m07s
2871-Apr-11	01:25:33	3281	737	10776	172	A	p-	-0.7241	0.9510	36S	173W	43	258	05m12s
2871-Oct-05	15:39:06	3285	738	10782	177	H	p-	0.7369	1.0057	40N	27W	42	29	00m30s
2872-Feb-29	21:22:40	3288	738	10787	144	P	-t	1.3316	0.3863	72N	169E	0		
2872-Mar-30	08:50:25	3288	739	10788	182	P	t-	-1.3932	0.2768	72S	139E	0		
2872-Aug-25	08:07:21	3291	739	10793	149	P	-t	-1.3123	0.4278	72S	15E	0		
2872-Sep-23	22:49:58	3292	739	10794	187	Pb	t-	1.5377	0.0365	72N	63W	0		
2873-Feb-18	12:39:45	3295	740	10799	154	T	-p	0.6370	1.0461	27N	4W	50	198	03m59s
2873-Aug-14	08:34:10	3298	740	10805	159	A	-p	-0.5646	0.9506	20S	59E	55	218	06m12s
2874-Feb-08	03:54:07	3302	741	10811	164	T	nn	-0.0339	1.0244	17S	139E	88	83	02m23s
2874-Aug-03	12:56:48	3305	742	10817	169	A	n-	0.2203	0.9961	30N	4E	77	14	00m24s
2875-Jan-28	14:30:29	3309	743	10823	174	A	p-	-0.7587	0.9636	66S	3W	40	203	02m49s

2875-Jul-24	00:34:45	3312	743	10829	179	T	t-	0.9640	1.0388	82N	49W	15	513	02m04s
2875-Dec-18	22:44:16	3315	744	10834	146	P	-t	1.5582	0.0229	66N	132W	0		
2876-Jan-17	17:46:56	3315	744	10835	184	P	t-	-1.4928	0.1289	69S	93E	0		
2876-Jun-13	10:16:40	3318	744	10840	151	T	-p	-0.8415	1.0645	34S	49E	32	391	05m25s
2876-Dec-06	22:44:49	3322	745	10846	156	A	-p	0.8570	0.9349	36N	137W	31	468	07m22s
2877-Jun-03	01:23:29	3325	746	10852	161	T	nn	-0.1114	1.0294	16N	174E	84	100	02m58s
2877-Nov-26	05:06:23	3329	746	10858	166	A	nn	0.1130	0.9967	15S	116E	84	12	00m21s
2878-May-23	10:17:37	3332	747	10864	171	A	p-	0.6748	0.9679	60N	16E	47	156	02m36s
2878-Nov-15	18:18:22	3336	748	10870	176	T	p-	-0.5879	1.0435	52S	104W	54	179	03m04s
2879-Apr-12	19:28:24	3339	748	10875	143	P	-t	-1.4973	0.1182	62S	25W	0		
2879-May-12	12:15:37	3339	749	10876	181	P	t-	1.4435	0.2070	63N	121W	0		
2879-Oct-07	01:29:00	3342	749	10881	148	P	-t	1.3441	0.3611	61N	112W	0		
2879-Nov-05	10:30:45	3343	749	10882	186	P	t-	-1.2639	0.5124	62S	91W	0		
2880-Mar-31	21:48:24	3346	750	10887	153	A	-p	-0.7448	0.9619	37S	106W	42	201	03m31s
2880-Sep-25	13:45:27	3349	750	10893	158	A	-p	0.6583	0.9932	34N	8E	49	31	00m36s
2881-Mar-21	07:10:44	3353	751	10899	163	T	nn	0.0070	1.0201	1N	88E	90	68	01m49s
2881-Sep-14	18:58:50	3356	752	10905	168	Am	nn	-0.0913	0.9527	2S	94W	85	173	05m15s
2882-Mar-10	21:58:27	3360	753	10911	173	T	p-	0.6933	1.0475	34N	157W	46	215	03m34s
2882-Sep-03	19:25:34	3363	753	10917	178	A	p-	-0.8437	0.9390	43S	130W	32	408	05m52s
2883-Jan-30	02:15:36	3366	754	10922	145	P	-t	-1.3485	0.3582	63S	69W	0		
2883-Feb-28	13:47:58	3367	754	10923	183	P	t-	1.3751	0.3048	62N	86W	0		
2883-Jul-25	11:05:17	3370	754	10928	150	P	-t	1.1545	0.7115	63N	164E	0		
2883-Aug-23	22:19:14	3370	755	10929	188	Pb	t-	-1.5523	0.0011	62S	151E	0		
2884-Jan-19	10:53:48	3373	755	10934	155	A	-p	-0.7088	0.9489	62S	60E	45	265	04m07s
2884-Jul-14	00:27:34	3377	756	10940	160	T	-n	0.3524	1.0635	41N	164W	69	222	04m58s
2885-Jan-07	12:20:19	3380	757	10946	165	A	nn	-0.0290	0.9197	24S	11E	88	304	10m20s
2885-Jul-03	17:29:50	3384	757	10952	170	T	n-	-0.3905	1.0777	0N	71W	67	272	07m11s
2885-Dec-27	11:34:18	3387	758	10958	175	A	p-	0.6500	0.9271	17N	15E	49	360	09m46s
2886-May-25	00:04:49	3390	759	10963	142	P	-t	1.4743	0.1282	68N	26E	0		
2886-Jun-23	09:33:07	3391	759	10964	180	P	t-	-1.1576	0.7118	66S	35E	0		
2886-Nov-17	03:10:19	3394	759	10969	147	P	-t	-1.4802	0.1161	69S	13W	0		
2886-Dec-16	16:00:48	3394	759	10970	185	P	t-	1.3018	0.4445	67N	56W	0		
2887-May-14	06:50:22	3397	760	10975	152	A	-p	0.7794	0.9518	69N	72E	38	283	03m52s

2887-Nov-06	17:45:29	3401	761	10981	157	T	-p	-0.7480	1.0502	63S	95W	41	252	03m18s
2888-May-02	07:31:05	3404	761	10987	162	Am	nn	0.0489	0.9369	19N	80E	87	235	08m17s
2888-Oct-26	10:03:04	3408	762	10993	167	T	nn	-0.0541	1.0509	16S	39E	87	169	04m42s
2889-Apr-21	08:53:51	3411	763	10999	172	A	p-	-0.6778	0.9570	29S	72E	47	211	04m49s
2889-Oct-15	23:21:03	3415	763	11005	177	H	p-	0.6917	1.0004	33N	147W	46	2	00m02s
2890-Mar-12	05:52:21	3418	764	11010	144	P	-t	1.3455	0.3599	72N	28E	0		
2890-Apr-10	16:50:58	3418	764	11011	182	P	t-	-1.3561	0.3432	72S	5E	0		
2890-Sep-05	14:48:55	3421	765	11016	149	P	-t	-1.3884	0.2980	72S	98W	0		
2890-Oct-05	05:59:21	3422	765	11017	187	P	t-	1.4843	0.1309	72N	176E	0		
2891-Mar-01	21:22:00	3425	765	11022	154	T	-p	0.6502	1.0477	32N	136W	49	208	03m58s
2891-Aug-25	15:12:34	3428	766	11028	159	A	-p	-0.6441	0.9498	29S	44W	50	238	05m52s
2892-Feb-19	12:34:46	3432	767	11034	164	T	nn	-0.0254	1.0234	13S	9E	88	80	02m18s
2892-Aug-13	19:55:05	3436	767	11040	169	A	nn	0.1410	0.9988	22N	101W	82	4	00m08s
2893-Feb-07	22:54:50	3439	768	11046	174	A	p-	-0.7538	0.9617	62S	126W	41	211	03m04s
2893-Aug-03	07:55:20	3443	769	11052	179	T	t-	0.8874	1.0448	76N	120E	27	328	02m40s
2893-Dec-29	06:41:58	3446	769	11057	146	Pe	-t	1.5707	0.0028	67N	99E	0		
2894-Jan-28	01:52:39	3446	769	11058	184	P	t-	-1.4864	0.1399	70S	39W	0		
2894-Jun-24	17:49:10	3449	770	11063	151	T	-t	-0.9128	1.0620	43S	67W	24	502	04m55s
2894-Dec-18	06:49:23	3453	771	11069	156	A	-p	0.8701	0.9350	37N	99E	29	492	07m20s
2895-Jun-14	08:45:46	3456	771	11075	161	T	-n	-0.1811	1.0278	13N	65E	80	96	02m55s
2895-Dec-07	13:27:17	3460	772	11081	166	A	nn	0.1306	0.9974	15S	8W	83	9	00m17s
2896-Jun-02	17:19:10	3463	773	11087	171	A	p-	0.6070	0.9683	59N	80W	52	144	02m42s
2896-Nov-26	02:48:14	3467	773	11093	176	T	p-	-0.5646	1.0427	54S	134E	55	173	03m02s
2897-Apr-23	02:43:12	3470	774	11098	143	Pe	-t	-1.5439	0.0379	62S	142W	0		
2897-May-22	19:05:51	3471	774	11099	181	P	t-	1.3772	0.3188	64N	128E	0		
2897-Oct-17	09:25:26	3474	775	11104	148	P	-t	1.3919	0.2722	62N	121E	0		
2897-Nov-15	18:53:55	3474	775	11105	186	P	t-	-1.2374	0.5624	63S	135E	0		
2898-Apr-12	05:31:37	3477	775	11110	153	A	-p	-0.7801	0.9669	36S	138E	38	185	03m06s
2898-Oct-06	21:13:36	3481	776	11116	158	A	-p	0.7154	0.9864	34N	103W	44	67	01m13s
2899-Apr-01	15:24:30	3484	777	11122	163	T	nn	-0.0213	1.0255	4N	35W	89	87	02m17s
2899-Sep-26	01:55:21	3488	778	11128	168	A	nn	-0.0242	0.9486	3S	163E	89	189	05m44s
2900-Mar-22	06:30:47	3491	778	11134	173	T	p-	0.6715	1.0510	37N	74E	48	224	03m44s
2900-Sep-15	02:09:38	3495	779	11140	178	A	p-	-0.7685	0.9394	40S	132E	40	340	05m52s

# 30TH CENTURY CE

In the 30th century CE the total number of solar eclipses will be 248 solar eclipses: 91 partial solar eclipses, 82 annular solar eclipses (80 central annular solar eclipses with two limits, 0 central annular solar eclipses with one limit, 2 non-central annular solar eclipses with one limit), 64 total solar eclipses (63 central total solar eclipses with two limits, 1 central total solar eclipses with one limit, 0 non-central total solar eclipses with one limit), 11 hybrid solar eclipses.

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QLE	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG	°	°	ALT	WIDTH	DUR.
GREATEST		S										°	km	
ECLIPSE														
2901-Feb-10	10:54:12	3498	779	11145	145	P	-t	-1.3590	0.3394	62S	153E	0		
2901-Mar-11	22:22:31	3499	780	11146	183	P	t-	1.3617	0.3297	61N	138E	0		
2901-Aug-05	18:10:14	3502	780	11151	150	P	-t	1.2267	0.5800	63N	49E	0		
2901-Sep-04	05:19:36	3502	780	11152	188	P	t-	-1.4765	0.1349	61S	38E	0		
2902-Jan-30	19:12:10	3505	781	11157	155	A	-p	-0.7182	0.9466	58S	61W	44	280	04m21s
2902-Jul-26	07:52:43	3509	782	11163	160	T	-p	0.4261	1.0651	43N	90E	65	235	04m54s
2903-Jan-19	20:22:14	3512	782	11169	165	A	nn	-0.0391	0.9189	23S	108W	88	308	10m12s
2903-Jul-16	01:00:40	3516	783	11175	170	T	n-	-0.3176	1.0780	3N	177E	72	265	07m04s
2904-Jan-08	19:40:26	3519	784	11181	175	A	p-	0.6385	0.9281	17N	108W	50	348	09m24s
2904-Jun-05	07:24:44	3522	784	11186	142	Pe	-t	1.5429	0.0039	67N	95W	0		
2904-Jul-04	16:52:53	3523	784	11187	180	P	t-	-1.0889	0.8403	65S	84W	0		
2904-Nov-28	11:32:00	3526	785	11192	147	P	-t	-1.4960	0.0873	68S	149W	0		
2904-Dec-28	00:26:50	3527	785	11193	185	P	t-	1.2890	0.4670	65N	168E	0		
2905-May-25	13:49:00	3530	786	11198	152	A	-t	0.8483	0.9505	79N	33W	32	346	03m39s

2905-Nov-18	02:11:31	3533	786	11204	157	T	-p	-0.7732	1.0477	69S	140E	39	252	03m01s
2906-May-14	14:27:39	3537	787	11210	162	A	nn	0.1121	0.9398	25N	24W	83	225	07m41s
2906-Nov-07	18:17:58	3540	788	11216	167	T	-n	-0.0870	1.0461	21S	85W	85	154	04m15s
2907-May-03	16:15:24	3544	788	11222	172	A	p-	-0.6250	0.9632	22S	42W	51	170	04m20s
2907-Oct-28	07:09:43	3548	789	11228	177	A	p-	0.6526	0.9949	27N	93E	49	23	00m31s
2908-Mar-23	14:17:57	3551	790	11233	144	P	-t	1.3632	0.3261	72N	112W	0		
2908-Apr-22	00:46:28	3551	790	11234	182	P	t-	-1.3142	0.4190	71S	127W	0		
2908-Sep-16	21:33:37	3554	790	11239	149	P	-t	-1.4612	0.1748	72S	147E	0		
2908-Oct-16	13:13:40	3555	791	11240	187	P	t-	1.4352	0.2171	72N	54E	0		
2909-Mar-13	06:00:52	3558	791	11245	154	T	-p	0.6663	1.0495	37N	92E	48	219	03m56s
2909-Sep-05	21:55:35	3561	792	11251	159	A	-p	-0.7199	0.9486	38S	149W	44	269	05m31s
2910-Mar-02	21:10:40	3565	793	11257	164	T	nn	-0.0135	1.0228	8S	120W	89	78	02m15s
2910-Aug-26	02:59:27	3569	793	11263	169	H	nn	0.0659	1.0009	14N	152E	86	3	00m06s
2911-Feb-20	07:14:59	3572	794	11269	174	A	p-	-0.7465	0.9604	57S	110E	41	215	03m19s
2911-Aug-15	15:20:16	3576	795	11275	179	T	p-	0.8135	1.0488	65N	7W	35	280	03m10s
2912-Feb-09	09:55:03	3580	795	11281	184	P	t-	-1.4778	0.1543	71S	172W	0		
2912-Jul-06	01:20:02	3583	796	11286	151	Ts	-t	-0.9850	1.0568	59S	175E	9	-	03m59s
2912-Aug-04	08:04:40	3583	796	11287	189	Pb	t-	1.5113	0.0310	70N	138W	0		
2912-Dec-29	14:58:32	3586	797	11292	156	A	-p	0.8799	0.9356	39N	27W	28	507	07m10s
2913-Jun-25	16:01:33	3590	797	11298	161	T	-n	-0.2552	1.0255	9N	43W	75	90	02m46s
2913-Dec-18	21:55:01	3593	798	11304	166	Am	nn	0.1431	0.9985	15S	134W	82	5	00m10s
2914-Jun-15	00:12:34	3597	799	11310	171	A	p-	0.5336	0.9681	55N	175W	57	136	02m52s
2914-Dec-08	11:24:37	3601	799	11316	176	T	p-	-0.5468	1.0422	55S	10E	57	169	03m02s
2915-Jun-04	01:48:47	3604	800	11322	181	P	t-	1.3050	0.4411	65N	18E	0		
2915-Oct-29	17:29:48	3607	801	11327	148	P	-t	1.4324	0.1977	62N	8W	0		
2915-Nov-28	03:24:17	3608	801	11328	186	P	t-	-1.2176	0.5995	64S	1W	0		
2916-Apr-23	13:07:17	3611	801	11333	153	A	-p	-0.8224	0.9718	37S	24E	34	173	02m39s
2916-Oct-18	04:47:32	3615	802	11339	158	A	-p	0.7666	0.9795	35N	144E	40	111	01m54s
2917-Apr-12	23:31:10	3618	803	11345	163	T	nn	-0.0561	1.0312	6N	156W	87	106	02m48s
2917-Oct-07	08:58:10	3622	804	11351	168	A	nn	0.0371	0.9443	4S	59E	88	206	06m19s
2918-Apr-02	14:55:17	3626	804	11357	173	T	p-	0.6432	1.0547	39N	51W	50	233	03m55s
2918-Sep-26	09:02:07	3629	805	11363	178	A	p-	-0.6996	0.9391	39S	32E	45	308	05m54s
2919-Feb-21	19:29:40	3632	806	11368	145	P	-t	-1.3717	0.3167	62S	16E	0		

2919-Mar-23	06:50:53	3633	806	11369	183	P	t-	1.3439	0.3629	61N	2E	0		
2919-Aug-17	01:18:44	3636	806	11374	150	P	-t	1.2964	0.4525	62N	67W	0		
2919-Sep-15	12:26:43	3637	806	11375	188	P	t-	-1.4051	0.2612	61S	77W	0		
2920-Feb-11	03:28:31	3640	807	11380	155	A	-p	-0.7285	0.9449	55S	177E	43	293	04m34s
2920-Aug-05	15:19:05	3643	808	11386	160	T	-p	0.4992	1.0660	44N	17W	60	248	04m48s
2921-Jan-30	04:24:53	3647	808	11392	165	A	nn	-0.0483	0.9187	20S	133E	87	309	10m01s
2921-Jul-26	08:29:24	3651	809	11398	170	T	n-	-0.2434	1.0775	6N	65E	76	258	06m50s
2922-Jan-19	03:49:58	3654	810	11404	175	A	p-	0.6294	0.9296	17N	128E	51	335	08m53s
2922-Jul-16	00:09:40	3658	810	11410	180	P	t-	-1.0185	0.9715	64S	157E	0		
2922-Dec-09	19:59:49	3661	811	11415	147	P	-t	-1.5075	0.0661	67S	73E	0		
2923-Jan-08	08:55:46	3662	811	11416	185	P	t-	1.2779	0.4866	64N	31E	0		
2923-Jun-05	20:41:41	3665	812	11421	152	A	-t	0.9211	0.9484	90N	148E	22	498	03m28s
2923-Nov-29	10:43:48	3668	812	11427	157	T	-p	-0.7936	1.0454	74S	19E	37	251	02m47s
2924-May-24	21:17:49	3672	813	11433	162	A	nn	0.1806	0.9426	31N	126W	79	216	07m02s
2924-Nov-18	02:38:39	3676	814	11439	167	T	-n	-0.1144	1.0413	26S	151E	83	139	03m47s
2925-May-13	23:30:07	3679	815	11445	172	A	p-	-0.5656	0.9693	16S	153W	55	133	03m45s
2925-Nov-07	15:05:09	3683	815	11451	177	A	p-	0.6201	0.9894	21N	28W	52	47	01m08s
2926-Apr-03	22:34:50	3686	816	11456	144	P	-t	1.3882	0.2784	72N	110E	0		
2926-May-03	08:33:14	3687	816	11457	182	P	t-	-1.2646	0.5101	70S	104E	0		
2926-Sep-28	04:26:29	3690	817	11462	149	Pe	-t	-1.5264	0.0654	72S	30E	0		
2926-Oct-27	20:36:52	3690	817	11463	187	P	t-	1.3935	0.2897	71N	70W	0		
2927-Mar-24	14:31:58	3693	817	11468	154	T	-p	0.6887	1.0514	43N	38W	46	233	03m54s
2927-Sep-17	04:45:59	3697	818	11474	159	A	-p	-0.7898	0.9470	47S	102E	38	314	05m10s
2928-Mar-13	05:39:49	3701	819	11480	164	T	nn	0.0034	1.0225	3S	113E	90	77	02m13s
2928-Sep-05	10:09:18	3704	819	11486	169	H	nn	-0.0053	1.0024	6N	43E	90	8	00m16s
2929-Mar-02	15:29:11	3708	820	11492	174	A	p-	-0.7348	0.9597	52S	14W	42	214	03m32s
2929-Aug-25	22:47:38	3712	821	11498	179	T	p-	0.7412	1.0515	56N	125W	42	254	03m37s
2930-Feb-19	17:54:35	3716	822	11504	184	P	t-	-1.4670	0.1721	71S	56E	0		
2930-Jul-17	08:47:28	3719	822	11509	151	P	-t	-1.0594	0.9062	69S	52E	0		
2930-Aug-15	15:36:47	3719	822	11510	189	P	t-	1.4429	0.1644	71N	97E	0		
2931-Jan-09	23:12:00	3722	823	11515	156	A	-p	0.8865	0.9369	41N	154W	27	510	06m52s
2931-Jul-06	23:13:19	3726	824	11521	161	T	-p	-0.3317	1.0226	3N	151W	71	81	02m30s
2931-Dec-30	06:28:18	3730	824	11527	166	A	nn	0.1512	1.0000	14S	99E	81	0	00m00s

2932-Jun-25	06:59:55	3733	825	11533	171	A	p-	0.4556	0.9676	51N	89E	63	131	03m06s
2932-Dec-18	20:06:39	3737	826	11539	176	T	p-	-0.5335	1.0418	55S	114W	57	166	03m01s
2933-Jun-14	08:26:09	3741	826	11545	181	P	t-	1.2281	0.5720	65N	90W	0		
2933-Nov-09	01:40:26	3744	827	11550	148	P	-t	1.4677	0.1338	63N	139W	0		
2933-Dec-08	12:00:15	3744	827	11551	186	P	t-	-1.2024	0.6277	65S	139W	0		
2934-May-04	20:36:32	3748	828	11556	153	A	-p	-0.8707	0.9764	40S	88W	29	168	02m12s
2934-Oct-29	12:28:38	3751	828	11562	158	A	-p	0.8111	0.9727	36N	29E	36	163	02m35s
2935-Apr-24	07:32:09	3755	829	11568	163	Tm	nn	-0.0964	1.0368	8N	85E	85	124	03m20s
2935-Oct-18	16:07:46	3759	830	11574	168	A	nn	0.0925	0.9401	5S	48W	85	223	06m59s
2936-Apr-12	23:13:32	3762	831	11580	173	T	p-	0.6096	1.0584	42N	174W	52	240	04m08s
2936-Oct-06	16:02:34	3766	831	11586	178	A	p-	-0.6367	0.9385	39S	71W	50	290	05m57s
2937-Mar-04	03:58:29	3769	832	11591	145	P	-t	-1.3893	0.2850	61S	120W	0		
2937-Apr-02	15:10:14	3770	832	11592	183	P	t-	1.3195	0.4085	61N	131W	0		
2937-Aug-27	08:32:05	3773	833	11597	150	P	-t	1.3628	0.3304	62N	177E	0		
2937-Sep-25	19:42:13	3774	833	11598	188	P	t-	-1.3393	0.3779	61S	166E	0		
2938-Feb-21	11:39:25	3777	833	11603	155	A	-p	-0.7428	0.9436	51S	56E	42	306	04m46s
2938-Aug-16	22:48:58	3780	834	11609	160	T	-p	0.5697	1.0660	44N	126W	55	261	04m42s
2939-Feb-10	12:23:33	3784	835	11615	165	A	nn	-0.0608	0.9191	18S	14E	86	307	09m45s
2939-Aug-06	15:59:22	3788	836	11621	170	T	n-	-0.1701	1.0761	7N	46W	80	250	06m33s
2940-Jan-30	11:59:52	3792	836	11627	175	A	p-	0.6197	0.9319	18N	5E	52	319	08m15s
2940-Jul-26	07:23:01	3795	837	11633	180	T	t-	-0.9456	1.0245	48S	60E	19	255	01m56s
2940-Dec-20	04:34:33	3798	838	11638	147	P	-t	-1.5143	0.0533	66S	66W	0		
2941-Jan-18	17:28:21	3799	838	11639	185	P	t-	1.2692	0.5022	64N	106W	0		
2941-Jun-16	03:25:33	3802	838	11644	152	A+	-t	1.0005	0.9655	66N	45W	0		
2941-Dec-09	19:23:09	3806	839	11650	157	T	-p	-0.8083	1.0434	77S	96W	36	248	02m36s
2942-Jun-05	04:00:06	3810	840	11656	162	A	nn	0.2557	0.9452	38N	136E	75	209	06m22s
2942-Nov-29	11:06:43	3813	840	11662	167	T	-n	-0.1354	1.0367	29S	25E	82	124	03m21s
2943-May-25	06:39:54	3817	841	11668	172	A	p-	-0.5013	0.9753	9S	98E	60	102	03m04s
2943-Nov-18	23:06:14	3821	842	11674	177	A	p-	0.5930	0.9840	17N	150W	54	70	01m48s
2944-Apr-14	06:46:59	3824	842	11679	144	P	-t	1.4177	0.2218	71N	26W	0		
2944-May-13	16:15:44	3825	843	11680	182	P	t-	-1.2107	0.6103	69S	23W	0		
2944-Nov-07	04:06:17	3828	843	11686	187	P	t-	1.3570	0.3527	70N	166E	0		
2945-Apr-03	22:56:45	3831	844	11691	154	T	-p	0.7165	1.0532	49N	166W	44	251	03m50s



2945-Sep-27	11:43:45	3835	845	11697	159	A	-p	-0.8540	0.9451	57S	10W	31	387	04m50s
2946-Mar-24	14:02:18	3839	845	11703	164	T	nn	0.0255	1.0224	3N	14W	89	76	02m13s
2946-Sep-16	17:27:16	3843	846	11709	169	H	nn	-0.0707	1.0036	2S	68W	86	12	00m23s
2947-Mar-13	23:35:55	3846	847	11715	174	A	p-	-0.7177	0.9594	46S	138W	44	210	03m46s
2947-Sep-06	06:21:49	3850	848	11721	179	T	p-	0.6739	1.0534	46N	117E	47	238	04m01s
2948-Mar-02	01:48:19	3854	848	11727	184	P	t-	-1.4520	0.1968	72S	76W	0		
2948-Jul-27	16:14:03	3857	849	11732	151	P	-t	-1.1340	0.7618	69S	71W	0		
2948-Aug-25	23:11:38	3858	849	11733	189	P	t-	1.3767	0.2932	71N	29W	0		
2949-Jan-20	07:27:32	3861	850	11738	156	A	-p	0.8919	0.9388	43N	78E	27	505	06m26s
2949-Jul-17	06:21:22	3865	850	11744	161	T	-p	-0.4100	1.0189	3S	101E	66	71	02m06s
2950-Jan-09	15:04:34	3868	851	11750	166	H	nn	0.1575	1.0020	13S	29W	81	7	00m13s
2950-Jul-06	13:42:09	3872	852	11756	171	A	p-	0.3742	0.9665	45N	7W	68	130	03m25s
2950-Dec-30	04:53:15	3876	852	11762	176	T	p-	-0.5242	1.0417	55S	121E	58	164	03m03s
2951-Jun-25	14:58:42	3880	853	11768	181	P	t-	1.1467	0.7109	66N	162E	0		
2951-Nov-20	09:57:36	3883	854	11773	148	P	-t	1.4971	0.0813	63N	88E	0		
2951-Dec-19	20:40:54	3884	854	11774	186	P	t-	-1.1917	0.6473	66S	81E	0		
2952-May-15	03:59:06	3887	854	11779	153	A	-p	-0.9250	0.9803	45S	161E	22	182	01m46s
2952-Nov-08	20:16:36	3890	855	11785	158	A	-p	0.8490	0.9660	37N	89W	32	227	03m18s
2953-May-04	15:24:30	3894	856	11791	163	T	nn	-0.1444	1.0424	9N	32W	82	143	03m54s
2953-Oct-28	23:25:35	3898	857	11797	168	A	nn	0.1405	0.9359	6S	156W	82	241	07m44s
2954-Apr-24	07:23:33	3902	857	11803	173	T	p-	0.5695	1.0622	44N	66E	55	246	04m23s
2954-Oct-17	23:12:09	3906	858	11809	178	A	p-	-0.5809	0.9377	40S	176W	54	280	06m03s
2955-Mar-15	12:21:10	3909	859	11814	145	P	-t	-1.4112	0.2455	61S	107E	0		
2955-Apr-13	23:22:10	3909	859	11815	183	P	t-	1.2898	0.4638	62N	98E	0		
2955-Sep-07	15:51:35	3913	859	11820	150	P	-t	1.4247	0.2163	61N	59E	0		
2955-Oct-07	03:06:25	3913	860	11821	188	P	t-	-1.2798	0.4836	61S	47E	0		
2956-Mar-03	19:46:00	3916	860	11826	155	A	-p	-0.7598	0.9428	48S	65W	40	318	04m57s
2956-Aug-27	06:20:52	3920	861	11832	160	T	-p	0.6388	1.0653	44N	125E	50	274	04m34s
2957-Feb-20	20:20:26	3924	862	11838	165	A	nn	-0.0746	0.9201	15S	104W	86	303	09m28s
2957-Aug-16	23:30:07	3928	862	11844	170	T	nn	-0.0978	1.0739	8N	157W	84	241	06m13s
2958-Feb-09	20:08:45	3931	863	11850	175	A	p-	0.6088	0.9347	20N	118W	52	300	07m33s
2958-Aug-06	14:36:35	3935	864	11856	180	T	p-	-0.8735	1.0235	40S	47W	29	161	01m58s
2958-Dec-31	13:13:20	3938	864	11861	147	P	-t	-1.5186	0.0449	65S	155E	0		

2959-Jan-30	02:01:09	3939	865	11862	185	P	t-	1.2598	0.5189	63N	117E	0		
2959-Jun-27	10:05:37	3942	865	11867	152	P	-t	1.0817	0.8252	65N	154W	0		
2959-Dec-21	04:06:01	3946	866	11873	157	T	-p	-0.8203	1.0417	78S	154E	35	246	02m28s
2960-Jun-15	10:38:40	3950	867	11879	162	A	np	0.3341	0.9475	43N	39E	70	205	05m45s
2960-Dec-09	19:39:34	3954	867	11885	167	T	-n	-0.1518	1.0323	32S	101W	81	111	02m57s
2961-Jun-04	13:43:14	3957	868	11891	172	A	p-	-0.4307	0.9811	3S	9W	64	74	02m21s
2961-Nov-29	07:14:01	3961	869	11897	177	A	p-	0.5721	0.9789	14N	87E	55	92	02m28s
2962-Apr-25	14:50:27	3964	869	11902	144	P	-t	1.4546	0.1506	71N	160W	0		
2962-May-24	23:51:14	3965	870	11903	182	P	t-	-1.1501	0.7239	69S	148W	0		
2962-Nov-18	11:43:35	3969	870	11909	187	P	t-	1.3270	0.4040	69N	40E	0		
2963-Apr-15	07:12:53	3972	871	11914	154	T	-p	0.7514	1.0547	56N	67E	41	274	03m44s
2963-Oct-08	18:51:28	3976	872	11920	159	A	-p	-0.9106	0.9428	66S	130W	24	514	04m31s
2964-Apr-03	22:16:14	3980	872	11926	164	T	nn	0.0541	1.0224	9N	138W	87	76	02m13s
2964-Sep-27	00:52:03	3984	873	11932	169	Hm	nn	-0.1311	1.0043	9S	179E	82	15	00m27s
2965-Mar-24	07:35:01	3987	874	11938	174	A	p-	-0.6952	0.9595	40S	100E	46	202	03m58s
2965-Sep-16	14:01:19	3991	874	11944	179	T	p-	0.6109	1.0543	38N	1W	52	225	04m20s
2966-Mar-13	09:35:23	3995	875	11950	184	P	t-	-1.4319	0.2299	72S	154E	0		
2966-Aug-07	23:40:27	3998	876	11955	151	P	-t	-1.2080	0.6192	70S	166E	0		
2966-Sep-06	06:50:36	3999	876	11956	189	P	t-	1.3141	0.4147	72N	157W	0		
2967-Jan-31	15:44:44	4002	877	11961	156	A	-p	0.8962	0.9413	46N	50W	26	490	05m54s
2967-Jul-28	13:27:17	4006	877	11967	161	H3	-p	-0.4893	1.0147	10S	7W	61	58	01m37s
2968-Jan-20	23:43:33	4010	878	11973	166	H	nn	0.1619	1.0045	11S	158W	81	16	00m29s
2968-Jul-16	20:21:11	4014	879	11979	171	A	nn	0.2908	0.9651	38N	105W	73	132	03m48s
2969-Jan-09	13:43:05	4017	879	11985	176	T	p-	-0.5175	1.0420	53S	6W	59	164	03m07s
2969-Jul-05	21:27:12	4021	880	11991	181	P	t-	1.0616	0.8565	68N	55E	0		
2969-Nov-30	18:20:50	4024	881	11996	148	P	-t	1.5211	0.0392	64N	47W	0		
2969-Dec-30	05:25:29	4025	881	11997	186	P	t-	-1.1846	0.6600	67S	60W	0		
2970-May-26	11:17:01	4028	882	12002	153	A	-t	-0.9835	0.9826	56S	55E	10	363	01m26s
2970-Nov-20	04:10:26	4032	882	12008	158	A	-p	0.8810	0.9597	39N	152E	28	305	03m59s
2971-May-15	23:12:06	4036	883	12014	163	T	-n	-0.1968	1.0476	8N	148W	79	161	04m27s
2971-Nov-09	06:51:03	4040	884	12020	168	A	nn	0.1816	0.9320	7S	94E	80	258	08m32s
2972-May-04	15:26:37	4044	885	12026	173	T	p-	0.5234	1.0657	45N	52W	58	251	04m40s
2972-Oct-28	06:30:29	4048	885	12032	178	A	p-	-0.5317	0.9369	42S	78E	58	274	06m10s

2973-Mar-25	20:35:38	4051	886	12037	145	P	-t	-1.4393	0.1948	61S	25W	0					
2973-Apr-24	07:24:58	4051	886	12038	183	P	t-	1.2534	0.5320	62N	31W	0					
2973-Sep-17	23:18:40	4055	887	12043	150	P	-t	1.4813	0.1118	61N	61W	0					
2973-Oct-17	10:40:36	4055	887	12044	188	P	t-	-1.2271	0.5771	62S	75W	0					
2974-Mar-15	03:43:06	4059	887	12049	155	A	-p	-0.7842	0.9422	45S	176E	38	335	05m07s			
2974-Sep-07	13:59:16	4062	888	12055	160	T	-p	0.7029	1.0638	44N	14E	45	289	04m25s			
2975-Mar-04	04:10:57	4066	889	12061	165	A	nn	-0.0940	0.9217	11S	139E	85	297	09m10s			
2975-Aug-28	07:03:27	4070	890	12067	170	Tm	nn	-0.0279	1.0709	8N	91E	88	231	05m53s			
2976-Feb-21	04:15:02	4074	890	12073	175	A	p-	0.5950	0.9382	22N	120E	53	279	06m49s			
2976-Aug-16	21:49:39	4078	891	12079	180	T	p-	-0.8015	1.0210	35S	154W	36	117	01m48s			
2977-Jan-10	21:56:15	4081	892	12084	147	P	-t	-1.5203	0.0412	64S	15E	0					
2977-Feb-09	10:33:41	4082	892	12085	185	P	t-	1.2499	0.5368	62N	19W	0					
2977-Jul-07	16:38:44	4085	892	12090	152	P	-t	1.1678	0.6767	65N	98E	0					
2977-Dec-31	12:54:28	4089	893	12096	157	T	-p	-0.8279	1.0405	76S	40E	34	244	02m23s			
2978-Jun-26	17:12:31	4093	894	12102	162	A	-p	0.4166	0.9493	48N	55W	65	205	05m12s			
2978-Dec-21	04:17:15	4097	895	12108	167	T	-n	-0.1639	1.0284	33S	133E	80	98	02m34s			
2979-Jun-15	20:44:05	4100	895	12114	172	A	p-	-0.3570	0.9866	2N	115W	69	51	01m39s			
2979-Dec-10	15:27:21	4104	896	12120	177	A	p-	0.5562	0.9740	11N	37W	56	112	03m07s			
2980-May-05	22:48:29	4108	897	12125	144	Pe	-t	1.4964	0.0696	70N	69E	0					
2980-Jun-04	07:22:38	4108	897	12126	182	P	t-	-1.0853	0.8466	68S	89E	0					
2980-Nov-28	19:27:23	4112	898	12132	187	P	t-	1.3025	0.4458	68N	87W	0					
2981-Apr-25	15:22:34	4115	898	12137	154	T	-p	0.7918	1.0560	63N	58W	37	303	03m36s			
2981-Oct-19	02:08:12	4119	899	12143	159	A	-p	-0.9601	0.9400	74S	93E	16	821	04m14s			
2982-Apr-15	06:21:34	4123	900	12149	164	T	nn	0.0891	1.0223	15N	100E	85	76	02m13s			
2982-Oct-08	08:26:53	4127	900	12155	169	H	nn	-0.1838	1.0047	16S	64E	79	17	00m29s			
2983-Apr-04	15:25:36	4131	901	12161	174	A	p-	-0.6665	0.9599	34S	20W	48	193	04m11s			
2983-Sep-27	21:47:36	4135	902	12167	179	T	p-	0.5530	1.0547	30N	121W	56	216	04m36s			
2984-Mar-23	17:14:39	4139	903	12173	184	P	t-	-1.4058	0.2732	72S	25E	0					
2984-Aug-18	07:08:21	4142	903	12178	151	P	-t	-1.2801	0.4809	71S	42E	0					
2984-Sep-16	14:34:16	4143	903	12179	189	P	t-	1.2555	0.5279	72N	74E	0					
2985-Feb-10	23:59:57	4146	904	12184	156	A	-p	0.9028	0.9444	49N	178W	25	477	05m18s			
2985-Aug-07	20:31:45	4150	905	12190	161	H	-p	-0.5686	1.0097	18S	116W	55	41	01m02s			
2986-Jan-31	08:22:32	4154	905	12196	166	H	-n	0.1670	1.0075	8S	73E	80	26	00m48s			

2986-Jul-28	02:58:16	4158	906	12202	171	A	nn	0.2063	0.9630	31N	157E	78	137	04m16s
2987-Jan-20	22:33:19	4161	907	12208	176	T	p-	-0.5111	1.0427	51S	133W	59	166	03m13s
2987-Jul-17	03:54:30	4165	908	12214	181	A	t-	0.9750	0.9372	80N	67W	12	1127	04m01s
2987-Dec-12	02:50:00	4169	908	12219	148	Pe	-t	1.5396	0.0073	65N	177E	0		
2988-Jan-10	14:12:53	4169	908	12220	186	P	t-	-1.1805	0.6672	68S	158E	0		
2988-Jun-05	18:28:48	4173	909	12225	153	P	-t	-1.0477	0.9016	65S	52W	0		
2988-Nov-30	12:11:06	4176	910	12231	158	A	-t	0.9067	0.9538	42N	29E	25	398	04m38s
2989-May-26	06:52:39	4180	910	12237	163	T	-n	-0.2556	1.0525	7N	98E	75	179	05m00s
2989-Nov-19	14:24:59	4184	911	12243	168	A	nn	0.2156	0.9283	8S	19W	78	275	09m23s
2990-May-15	23:21:58	4188	912	12249	173	T	p-	0.4709	1.0689	45N	166W	62	254	04m58s
2990-Nov-08	13:59:13	4192	913	12255	178	A	p-	-0.4904	0.9360	43S	31W	60	272	06m19s
2991-Apr-06	04:42:57	4195	913	12260	145	P	-t	-1.4727	0.1345	61S	155W	0		
2991-May-05	15:20:36	4196	913	12261	183	P	t-	1.2116	0.6101	63N	158W	0		
2991-Sep-29	06:52:14	4199	914	12266	150	Pe	-t	1.5333	0.0155	61N	177E	0		
2991-Oct-28	18:22:54	4200	914	12267	188	P	t-	-1.1801	0.6605	62S	161E	0		
2992-Mar-25	11:34:10	4203	915	12272	155	A	-p	-0.8128	0.9419	44S	58E	35	358	05m17s
2992-Sep-17	21:42:03	4207	916	12278	160	T	-p	0.7636	1.0617	44N	99W	40	307	04m16s
2993-Mar-14	11:55:53	4211	916	12284	165	A	nn	-0.1177	0.9238	8S	24E	83	289	08m53s
2993-Sep-07	14:40:07	4215	917	12290	170	T	nn	0.0388	1.0673	7N	22W	88	220	05m33s
2994-Mar-03	12:17:43	4219	918	12296	175	A	p-	0.5776	0.9422	25N	2W	55	256	06m06s
2994-Aug-28	05:05:33	4223	919	12302	180	T	p-	-0.7326	1.0176	32S	99E	43	87	01m31s
2995-Jan-22	06:39:19	4226	919	12307	147	P	-t	-1.5225	0.0362	63S	124W	0		
2995-Feb-20	19:02:53	4227	919	12308	185	P	t-	1.2365	0.5609	62N	155W	0		
2995-Jul-18	23:11:34	4230	920	12313	152	P	-t	1.2532	0.5296	64N	9W	0		
2995-Aug-17	13:03:06	4231	920	12314	190	Pb	t-	-1.5541	0.0038	62S	61W	0		
2996-Jan-11	21:44:33	4234	921	12319	157	T	-p	-0.8345	1.0397	73S	82W	33	243	02m20s
2996-Jul-06	23:43:58	4238	921	12325	162	A	-p	0.5014	0.9508	52N	146W	60	208	04m44s
2996-Dec-31	12:58:12	4242	922	12331	167	T	-n	-0.1730	1.0249	33S	6E	80	86	02m14s
2997-Jun-26	03:41:39	4246	923	12337	172	A	p-	-0.2792	0.9916	7N	141E	74	31	01m00s
2997-Dec-20	23:45:10	4250	924	12343	177	A	p-	0.5448	0.9697	10N	163W	57	130	03m40s
2998-Jun-15	14:49:23	4254	924	12349	182	P	t-	-1.0157	0.9793	66S	33W	0		
2998-Dec-10	03:18:27	4258	925	12355	187	P	t-	1.2837	0.4775	67N	144E	0		
2999-May-06	23:23:52	4261	926	12360	154	T	-p	0.8389	1.0566	71N	177E	33	345	03m25s

2999-Oct-30	09:34:28	4265	927	12366	159	A-	-t	-1.0024	0.9585	71S	85W	0
3000-Apr-26	14:18:06	4272	927	12372	164	T	-n	0.1310	1.0222	21N	19W	82 76 02m11s
3000-Oct-19	16:10:16	4276	928	12378	169	H	nn	-0.2303	1.0049	23S	52W	77 17 00m29s

# 4TH MILLENNIUM CE

In the 4th millennium CE the total number of solar eclipses will be 2 385 solar eclipses: 829 partial solar eclipses, 741 annular solar eclipses (710 central annular solar eclipses with two limits, 15 central annular solar eclipses with one limit, 16 non-central annular solar eclipses with one limit), 625 total solar eclipses (614 central total solar eclipses with two limits, 5 central total solar eclipses with one limit, 6 non-central total solar eclipses with one limit), 170 hybrid solar eclipses.

# 31ST CENTURY CE

In the 31st century CE the total number of solar eclipses will be ---- solar eclipses: ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with

one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	$\Delta T$	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
			GREATEST								°	km	
			ECLIPSE										
-----	-09	3001	Apr 15	23:05:33	4431	12384	A	-0.6296	0.9606	27.8S	136.9W	51 183	04m22s
-----	-21	3001	Oct 09	05:41:17	4435	12390	T	0.5010	1.0544	22.6N	119.2E	60 207	04m47s
-----	34	3002	Aug 30	14:38:31	4442	12401	P	-1.3497	0.3480	71.6S	82.8W	0	
-----	21	3003	Feb 23	08:13:25	4445	12407	A	0.9116	0.9479	52.9N	54.4E	24 465	04m41s
-----	09	3003	Aug 20	03:37:08	4449	12413	H	-0.6463	1.0042	26.8S	135.4E	50 19	00m26s
-----	11	3004	Feb 12	17:01:39	4453	12419	H	0.1724	1.0110	4.2S	56.1W	80 38	01m09s
-----	-01	3004	Aug 08	09:33:55	4456	12425	Am	0.1213	0.9606	22.8N	58.5E	83 144	04m46s
-----	-14	3005	Feb 01	07:24:50	4460	12431	T	-0.5057	1.0439	47.1S	97.9E	59 170	03m21s
-----	29	3006	Jun 18	01:38:21	4470	12448	P	-1.1143	0.7829	65.8S	168.4W	0	
-----	16	3006	Dec 12	20:17:01	4474	12454	A	0.9271	0.9484	44.4N	94.7W	22 508	05m11s
-----	07	3007	Jun 07	14:29:56	4478	12460	T	-0.3177	1.0568	4.5N	15.0W	72 197	05m30s
-----	06	3007	Dec 01	22:05:03	4481	12466	A	0.2441	0.9251	8.0S	132.1W	76 291	10m13s
-----	-06	3008	May 27	07:11:30	4485	12472	T	0.4136	1.0716	44.8N	81.7E	65 256	05m18s
-----	-17	3008	Nov 19	21:36:51	4489	12478	A	-0.4560	0.9353	45.0S	141.3W	63 270	06m28s
-----	37	3009	Apr 17	12:39:22	4492	12483	Pe	-1.5141	0.0596	61.7S	78.6E	0	
-----	24	3010	Apr 06	19:14:31	4499	12495	A	-0.8494	0.9415	43.5S	55.9W	32 398	05m25s
-----	12	3010	Sep 30	05:32:38	4503	12501	T	0.8180	1.0589	43.8N	146.3E	35 330	04m05s
-----	09	3011	Mar 26	19:32:21	4506	12507	A	-0.1483	0.9262	5.4S	88.9W	81 280	08m37s
-----	02	3011	Sep 19	22:22:01	4510	12513	T	0.1006	1.0631	6.4N	135.2W	84 208	05m13s
-----	-10	3012	Mar 14	20:15:28	4514	12519	A	0.5556	0.9469	27.1N	120.6W	56 231	05m24s
-----	-23	3012	Sep 08	12:22:53	4518	12525	T	-0.6655	1.0134	31.1S	8.8W	48 60	01m09s
-----	42	3013	Feb 02	15:24:30	4521	12530	P	-1.5238	0.0326	62.8S	96.3E	0	
-----	31	3013	Jul 30	05:41:19	4524	12536	P	1.3404	0.3798	62.9N	114.2W	0	
-----	20	3014	Jan 23	06:36:40	4528	12542	T	-0.8397	1.0394	68.9S	150.1E	33 244	02m20s

----- 08 3014 Jul 19 06:14:29 4532 12548 A 0.5872 0.9517 54.5N 124.3E 54 218 04m23s  
 ----- 08 3015 Jan 12 21:42:29 4535 12554 T -0.1791 1.0218 31.7S 122.2W 80 76 01m57s  
 ----- -02 3015 Jul 08 10:38:31 4539 12560 A -0.2000 0.9962 11.1N 38.6E 79 13 00m26s  
 ----- -16 3016 Jan 02 08:06:22 4543 12566 A 0.5367 0.9657 9.2N 72.1E 57 146 04m08s  
 ----- 27 3017 May 18 07:17:56 4553 12583 T 0.8919 1.0564 80.3N 46.1E 26 417 03m11s  
 ----- 15 3017 Nov 10 17:10:26 4557 12589 P -1.0372 0.8987 70.0S 149.2E 0  
 ----- 05 3018 May 07 22:06:17 4561 12595 T 0.1791 1.0218 27.2N 135.3W 80 75 02m06s  
 ----- 05 3018 Oct 31 00:02:35 4564 12601 H -0.2700 1.0050 29.2S 169.8W 74 18 00m29s  
 ----- -08 3019 Apr 27 06:36:40 4568 12607 A -0.5861 0.9612 21.4S 107.8E 54 172 04m34s  
 ----- -20 3019 Oct 20 13:42:54 4572 12613 T 0.4551 1.0537 16.0N 3.2W 63 199 04m54s  
 ----- 35 3020 Sep 09 22:11:39 4579 12624 P -1.4162 0.2224 72.0S 150.7E 0  
 ----- 22 3021 Mar 05 16:22:29 4582 12630 A 0.9243 0.9518 57.6N 74.1W 22 463 04m02s  
 ----- 10 3021 Aug 30 10:44:28 4586 12636 A -0.7210 0.9980 35.7S 24.4E 44 10 00m11s  
 ----- 12 3022 Feb 23 01:36:38 4590 12642 H 0.1817 1.0150 0.0N 175.1E 80 52 01m32s  
 ----- 00 3022 Aug 19 16:11:33 4593 12648 A 0.0388 0.9577 14.7N 41.8W 88 154 05m17s  
 ----- -13 3023 Feb 12 16:14:22 4597 12654 T -0.4990 1.0455 42.9S 32.4W 60 175 03m32s  
 ----- 30 3024 Jun 28 08:44:29 4608 12671 P -1.1841 0.6570 66.8S 75.2E 0  
 ----- 17 3024 Dec 23 04:28:14 4612 12677 A 0.9426 0.9437 47.4N 138.6E 19 632 05m37s  
 ----- 08 3025 Jun 17 22:01:13 4615 12683 T -0.3855 1.0606 0.8N 127.6W 67 216 05m56s  
 ----- 07 3025 Dec 12 05:53:04 4619 12689 A 0.2659 0.9223 7.8S 111.6E 75 304 10m59s  
 ----- -05 3026 Jun 07 14:55:11 4623 12695 T 0.3514 1.0738 43.0N 29.6W 69 256 05m38s  
 ----- -16 3026 Dec 01 05:22:50 4626 12701 A -0.4279 0.9348 46.1S 106.4E 64 269 06m37s  
 ----- 25 3028 Apr 17 02:47:00 4637 12718 A -0.8919 0.9411 44.9S 168.2W 27 469 05m30s  
 ----- 13 3028 Oct 10 13:28:55 4641 12724 T 0.8679 1.0556 44.9N 28.8E 29 362 03m53s  
 ----- 10 3029 Apr 06 03:02:13 4644 12730 A -0.1845 0.9290 3.0S 159.4E 79 270 08m23s  
 ----- 03 3029 Sep 30 06:09:34 4648 12736 T 0.1575 1.0585 5.0N 109.1E 81 195 04m53s  
 ----- -09 3030 Mar 26 04:06:54 4652 12742 A 0.5274 0.9519 29.6N 121.9E 58 204 04m45s  
 ----- -22 3030 Sep 19 19:45:50 4656 12748 H -0.6036 1.0087 31.0S 118.2W 53 37 00m45s  
 ----- 43 3031 Feb 14 00:07:22 4659 12753 P -1.5280 0.0236 62.2S 42.8W 0  
 ----- 32 3031 Aug 10 12:12:15 4663 12759 P 1.4257 0.2339 62.3N 139.7E 0  
 ----- 21 3032 Feb 03 15:27:40 4666 12765 T -0.8461 1.0395 64.9S 19.0E 32 248 02m22s

----- 09 3032 Jul 29 12:45:47 4670 12771 A 0.6728 0.9522 56.5N 35.2E 47 235 04m07s  
 ----- 09 3033 Jan 23 06:26:27 4674 12777 T -0.1850 1.0193 29.6S 109.2E 79 67 01m43s  
 ----- -01 3033 Jul 18 17:34:19 4678 12783 H -0.1189 1.0002 14.2N 63.9W 83 1 00m02s  
 ----- -15 3034 Jan 12 16:29:17 4681 12789 A 0.5306 0.9624 9.6N 54.2W 58 160 04m28s  
 ----- 28 3035 May 29 15:04:56 4692 12806 T 0.9507 1.0548 84.8N 167.7W 17 605 02m50s  
 ----- 16 3035 Nov 22 00:56:10 4696 12812 P -1.0649 0.8511 69.1S 21.3E 0  
 ----- 06 3036 May 18 05:44:37 4700 12818 T 0.2350 1.0211 33.3N 110.9E 76 74 02m00s  
 ----- 06 3036 Nov 10 08:04:14 4703 12824 H -0.3029 1.0050 34.6S 70.6E 72 18 00m28s  
 ----- -07 3037 May 07 13:57:30 4707 12830 A -0.5345 0.9619 15.0S 4.5W 58 163 04m42s  
 ----- -19 3037 Oct 30 21:52:52 4711 12836 T 0.4161 1.0527 10.1N 127.2W 65 191 04m56s  
 ----- 36 3038 Sep 21 05:49:43 4718 12847 P -1.4781 0.1069 72.2S 22.7E 0  
 ----- 23 3039 Mar 17 00:28:08 4721 12853 A 0.9405 0.9560 62.9N 156.0E 19 477 03m25s  
 ----- 11 3039 Sep 10 17:53:36 4725 12859 A -0.7932 0.9914 45.2S 88.5W 37 49 00m46s  
 ----- 13 3040 Mar 05 10:09:38 4729 12865 T 0.1933 1.0194 4.8N 46.6E 79 68 01m56s  
 ----- 01 3040 Aug 29 22:50:53 4733 12871 A -0.0419 0.9544 6.4N 143.1W 88 167 05m48s  
 ----- -12 3041 Feb 23 01:01:12 4737 12877 T -0.4898 1.0475 38.2S 163.1W 60 181 03m47s  
 ----- 31 3042 Jul 09 15:51:12 4747 12894 P -1.2542 0.5293 67.8S 41.7W 0  
 ----- 18 3043 Jan 03 12:41:05 4751 12900 A 0.9561 0.9395 50.8N 10.7E 16 784 05m55s  
 ----- 09 3043 Jun 29 05:31:36 4755 12906 T -0.4545 1.0636 4.0S 119.4E 63 234 06m13s  
 ----- 08 3043 Dec 23 13:45:49 4759 12912 A 0.2835 0.9201 6.9S 5.9W 74 316 11m35s  
 ----- -04 3044 Jun 17 22:33:14 4762 12918 T 0.2846 1.0754 39.9N 140.0W 73 255 05m58s  
 ----- -15 3044 Dec 11 13:17:03 4766 12924 A -0.4061 0.9347 46.6S 7.5W 66 267 06m44s  
 ----- 26 3046 Apr 28 10:07:53 4777 12941 A -0.9431 0.9399 49.2S 83.9E 19 660 05m31s  
 ----- 14 3046 Oct 21 21:34:28 4781 12947 T 0.9104 1.0520 46.7N 91.6W 24 409 03m38s  
 ----- 11 3047 Apr 17 10:23:15 4785 12953 A -0.2282 0.9320 1.4S 50.0E 77 260 08m10s  
 ----- 04 3047 Oct 11 14:02:28 4788 12959 T 0.2094 1.0534 3.7N 8.2W 78 180 04m34s  
 ----- -08 3048 Apr 05 11:52:11 4792 12965 A 0.4933 0.9575 32.0N 6.6E 60 176 04m06s  
 ----- -21 3048 Sep 30 03:12:27 4796 12971 H -0.5453 1.0034 31.7S 131.6E 57 14 00m18s  
 ----- 44 3049 Feb 24 08:48:07 4799 12976 Pe -1.5342 0.0104 61.7S 178.7E 0  
 ----- 33 3049 Aug 20 18:43:31 4803 12982 Pe 1.5098 0.0906 61.8N 33.6E 0  
 ----- 22 3050 Feb 14 00:17:54 4807 12988 T -0.8533 1.0400 61.0S 113.6W 31 255 02m26s



----- 10 3050 Aug 09 19:19:09 4811 12994 A 0.7568 0.9520 57.8N 53.6W 41 266 03m57s  
 ----- 10 3051 Feb 03 15:09:48 4814 13000 H3 -0.1910 1.0172 26.8S 19.8W 79 60 01m32s  
 ----- 00 3051 Jul 30 00:32:40 4818 13006 H -0.0389 1.0038 16.4N 166.7W 88 13 00m23s  
 ----- -14 3052 Jan 24 00:53:13 4822 13012 A 0.5259 0.9595 10.9N 179.2E 58 171 04m42s  
 ----- 29 3053 Jun 08 22:46:25 4833 13029 P 1.0142 0.9922 67.1N 36.8E 0  
 ----- 17 3053 Dec 02 08:50:05 4837 13035 P -1.0866 0.8142 68.0S 108.0W 0  
 ----- 07 3054 May 29 13:15:59 4840 13041 T 0.2960 1.0199 39.0N 0.2W 73 71 01m50s  
 ----- 07 3054 Nov 21 16:14:51 4844 13047 H -0.3292 1.0052 39.1S 50.2W 71 19 00m29s  
 ----- -06 3055 May 18 21:10:11 4848 13053 A -0.4769 0.9625 8.7S 114.4W 61 154 04m50s  
 ----- -18 3055 Nov 11 06:09:53 4852 13059 T 0.3826 1.0515 5.0N 107.5E 67 184 04m56s  
 ----- 37 3056 Oct 01 13:33:09 4859 13070 Pe -1.5349 0.0021 72.1S 106.6W 0  
 ----- 24 3057 Mar 27 08:25:59 4863 13076 A 0.9637 0.9601 69.0N 21.1E 15 559 02m50s  
 ----- 12 3057 Sep 21 01:07:57 4867 13082 A -0.8600 0.9842 55.0S 155.0E 30 109 01m17s  
 ----- 14 3058 Mar 16 18:36:24 4870 13088 T 0.2107 1.0242 10.1N 80.6W 78 84 02m21s  
 ----- 02 3058 Sep 10 05:34:54 4874 13094 A -0.1183 0.9508 1.8S 114.2E 83 181 06m16s  
 ----- -11 3059 Mar 06 09:43:13 4878 13100 T -0.4765 1.0499 33.0S 66.5E 61 188 04m04s  
 ----- 32 3060 Jul 19 22:56:05 4889 13117 P -1.3262 0.3971 68.8S 158.6W 0  
 ----- 19 3061 Jan 13 20:57:30 4893 13123 A 0.9658 0.9359 54.1N 119.0W 14 951 06m05s  
 ----- 10 3061 Jul 09 12:58:57 4897 13129 T -0.5262 1.0659 9.7S 6.5E 58 253 06m20s  
 ----- 09 3062 Jan 02 21:43:43 4900 13135 A 0.2965 0.9184 5.5S 124.8W 73 324 11m59s  
 ----- -03 3062 Jun 29 06:07:48 4904 13141 T 0.2150 1.0762 35.7N 109.4E 77 253 06m16s  
 ----- -14 3062 Dec 22 21:18:40 4908 13147 A -0.3902 0.9350 46.4S 123.2W 67 264 06m48s  
 ----- 27 3064 May 08 17:21:18 4919 13164 A- -0.9997 0.9639 62.6S 7.7W 0  
 ----- 15 3064 Nov 01 05:46:35 4923 13170 T 0.9478 1.0479 49.8N 146.2E 18 497 03m20s  
 ----- 12 3065 Apr 27 17:35:46 4927 13176 A -0.2791 0.9352 0.7S 57.2W 74 250 08m00s  
 ----- 05 3065 Oct 21 22:02:28 4931 13182 T 0.2550 1.0482 2.3N 127.4W 75 165 04m14s  
 ----- -07 3066 Apr 16 19:30:46 4934 13188 A 0.4529 0.9632 34.1N 106.4W 63 148 03m31s  
 ----- -20 3066 Oct 11 10:45:14 4938 13194 A -0.4930 0.9980 32.9S 20.2E 60 8 00m10s  
 ----- 23 3068 Feb 25 09:03:58 4949 13211 T -0.8641 1.0407 57.5S 114.4E 30 268 02m31s  
 ----- 11 3068 Aug 20 01:55:43 4953 13217 A 0.8386 0.9512 58.7N 142.5W 33 324 03m50s  
 ----- 11 3069 Feb 13 23:50:23 4957 13223 H -0.1990 1.0157 23.5S 148.6W 78 55 01m23s

----- 01 3069 Aug 09 07:33:40 4961 13229 H 0.0402 1.0066 17.7N 90.1E 88 23 00m39s  
 ----- -13 3070 Feb 03 09:14:42 4965 13235 A 0.5196 0.9573 12.7N 53.2E 59 179 04m49s  
 ----- 30 3071 Jun 20 06:21:51 4976 13252 P 1.0823 0.8613 66.1N 87.0W 0  
 ----- 18 3071 Dec 13 16:52:15 4979 13258 P -1.1023 0.7874 66.9S 121.2E 0  
 ----- 08 3072 Jun 08 20:38:54 4983 13264 T 0.3636 1.0183 44.4N 108.0W 68 67 01m37s  
 ----- 08 3072 Dec 02 00:34:04 4987 13270 H -0.3490 1.0055 42.5S 172.0W 69 20 00m30s  
 ----- -05 3073 May 29 04:12:32 4991 13276 A -0.4112 0.9629 2.6S 138.8E 66 147 04m54s  
 ----- -17 3073 Nov 21 14:35:32 4995 13282 T 0.3561 1.0502 0.8N 19.5W 69 178 04m52s  
 ----- 25 3075 Apr 07 16:19:22 5006 13299 An 0.9913 0.9632 73.5N 135.4W 6 - 02m19s  
 ----- 13 3075 Oct 02 08:26:38 5010 13305 A -0.9225 0.9765 65.0S 31.2E 22 219 01m44s  
 ----- 15 3076 Mar 27 02:58:45 5014 13311 T 0.2323 1.0292 15.7N 153.2E 76 102 02m46s  
 ----- 03 3076 Sep 20 12:23:07 5018 13317 A -0.1908 0.9470 10.0S 10.4E 79 199 06m41s  
 ----- -10 3077 Mar 16 18:20:47 5022 13323 T -0.4596 1.0526 27.6S 63.4W 62 195 04m24s  
 ----- 33 3078 Jul 31 06:04:38 5033 13340 P -1.3958 0.2684 69.7S 82.9E 0  
 ----- 20 3079 Jan 25 05:13:22 5036 13346 A 0.9751 0.9330 58.0N 110.2E 12 1184 06m07s  
 ----- 11 3079 Jul 20 20:26:23 5040 13352 T -0.5984 1.0673 16.4S 107.2W 53 274 06m16s  
 ----- 10 3080 Jan 14 05:43:42 5044 13358 A 0.3078 0.9174 3.4S 115.5E 72 330 12m09s  
 ----- -02 3080 Jul 09 13:38:50 5048 13364 T 0.1427 1.0762 30.4N 1.3W 82 249 06m31s  
 ----- -13 3081 Jan 02 05:25:13 5052 13370 A -0.3775 0.9358 45.2S 119.8E 68 259 06m49s  
 ----- 28 3082 May 20 00:24:26 5063 13387 P -1.0640 0.8539 63.4S 122.0W 0  
 ----- 16 3082 Nov 12 14:06:37 5067 13393 T 0.9789 1.0433 54.7N 22.5E 11 734 02m57s  
 ----- 13 3083 May 09 00:40:11 5071 13399 A -0.3368 0.9383 1.1S 162.4W 70 242 07m50s  
 ----- 06 3083 Nov 02 06:09:18 5075 13405 T 0.2944 1.0428 1.1N 111.5E 73 149 03m53s  
 ----- -06 3084 Apr 27 03:01:50 5079 13411 A 0.4054 0.9692 35.6N 143.3E 66 120 02m56s  
 ----- -19 3084 Oct 21 18:23:57 5083 13417 A -0.4461 0.9923 34.6S 92.5W 63 30 00m41s  
 ----- 24 3086 Mar 07 17:46:00 5094 13434 T -0.8784 1.0416 54.6S 16.9W 28 287 02m38s  
 ----- 12 3086 Aug 31 08:38:06 5098 13440 A 0.9162 0.9495 59.8N 129.3E 23 457 03m47s  
 ----- 12 3087 Feb 25 08:28:22 5102 13446 H -0.2091 1.0145 19.9S 82.8E 78 51 01m17s  
 ----- 02 3087 Aug 20 14:38:16 5105 13452 H 0.1173 1.0090 18.2N 13.9W 83 31 00m52s  
 ----- -12 3088 Feb 14 17:34:38 5109 13458 A 0.5125 0.9556 15.1N 72.4W 59 185 04m51s  
 ----- 31 3089 Jun 30 13:53:21 5121 13475 P 1.1533 0.7248 65.2N 150.7E 0

----- 19 3089 Dec 24 01:00:48 5124 13481 P -1.1136 0.7683 65.9S 10.7W 0  
 ----- 09 3090 Jun 20 03:56:54 5128 13487 T 0.4343 1.0161 49.1N 146.9E 64 61 01m22s  
 ----- 09 3090 Dec 13 08:59:13 5132 13493 H -0.3647 1.0062 44.6S 65.6E 68 23 00m32s  
 ----- -04 3091 Jun 09 11:08:43 5136 13499 A -0.3409 0.9629 3.0N 34.2E 70 143 04m56s  
 ----- -16 3091 Dec 02 23:07:55 5140 13505 T 0.3347 1.0490 2.4S 147.7W 70 173 04m47s  
 ----- 26 3093 Apr 18 00:04:23 5151 13522 P 1.0267 0.9310 71.4N 75.4E 0  
 ----- 14 3093 Oct 12 15:52:48 5155 13528 A -0.9778 0.9678 73.6S 116.7W 11 592 02m06s  
 ----- 16 3094 Apr 07 11:13:06 5159 13534 T 0.2614 1.0344 21.6N 29.1E 75 120 03m10s  
 ----- 04 3094 Oct 01 19:19:04 5163 13540 A -0.2565 0.9429 17.9S 95.3W 75 218 07m03s  
 ----- -09 3095 Mar 28 02:51:53 5167 13546 T -0.4371 1.0555 21.9S 167.8E 64 203 04m47s  
 ----- 34 3096 Aug 10 13:14:10 5178 13563 P -1.4650 0.1399 70.5S 36.3W 0  
 ----- 21 3097 Feb 04 13:28:42 5182 13569 An 0.9846 0.9305 62.5N 22.7W 9 - 06m00s  
 ----- 12 3097 Jul 31 03:53:09 5186 13575 T -0.6716 1.0678 23.9S 138.5E 48 298 06m02s  
 ----- 11 3098 Jan 24 13:45:55 5190 13581 A 0.3172 0.9170 0.7S 4.9W 72 332 12m05s  
 ----- -01 3098 Jul 20 21:08:34 5194 13587 T 0.0692 1.0755 24.3N 112.8W 86 245 06m40s  
 ----- -12 3099 Jan 13 13:35:31 5198 13593 A -0.3671 0.9371 43.1S 1.2E 68 252 06m45s  
 ----- 29 3100 May 31 07:19:28 5209 13610 P -1.1341 0.7339 64.3S 125.4E 0  
 ----- 17 3100 Nov 23 22:33:38 5213 13616 T+ 1.0045 1.0050 63.6N 98.5W 0

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3004 Feb 12 17:01:39 4312 12419 166 H 0.1724 1.0110 4.2S 56.6W 80 167 38 01m09s  
 ----- 3007 Dec 01 22:05:03 4340 12466 168 A 0.2441 0.9251 8.0S 132.7W 76 194 291 10m13s  
 ----- 3022 Feb 23 01:36:38 4445 12642 166 H 0.1817 1.0150 0.0N 174.5E 80 165 52 01m32s  
 ----- 3025 Dec 12 05:53:04 4474 12689 168 A 0.2659 0.9223 7.8S 111.0E 75 189 304 10m59s  
 ----- 3043 Jun 29 05:31:35 4605 12906 163 T -0.4545 1.0636 4.0S 118.8E 63 358 234 06m13s  
 ----- 3043 Dec 23 13:45:49 4609 12912 168 A 0.2835 0.9201 6.9S 6.5W 74 185 316 11m35s  
 ----- 3051 Feb 03 15:09:48 4663 13000 167 H3 -0.1910 1.0172 26.8S 20.5W 79 336 60 01m32s  
 ----- 3061 Jul 09 12:58:57 4742 13129 163 T -0.5262 1.0659 9.7S 5.9E 58 2 253 06m20s

----- 3062 Jan 02 21:43:43 4746 13135 168 A 0.2965 0.9184 5.5S 125.5W 73 181 324 11m59s  
----- 3062 Jun 29 06:07:48 4750 13141 173 T 0.2150 1.0762 35.7N 108.8E 77 178 253 06m16s  
----- 3069 Feb 13 23:50:23 4801 13223 167 H -0.1990 1.0157 23.5S 149.3W 78 333 55 01m23s  
----- 3079 Jul 20 20:26:23 4882 13352 163 T -0.5984 1.0673 16.4S 107.8W 53 6 274 06m16s  
----- 3080 Jan 14 05:43:42 4885 13358 168 A 0.3078 0.9174 3.4S 114.8E 72 176 330 12m09s  
----- 3080 Jul 09 13:38:50 4889 13364 173 T 0.1427 1.0762 30.4N 2.0W 82 182 249 06m31s  
----- 3087 Feb 25 08:28:22 4941 13446 167 H -0.2091 1.0145 19.9S 82.2E 78 332 51 01m17s  
----- 3097 Jul 31 03:53:09 5023 13575 163 T -0.6716 1.0678 23.9S 137.8E 48 10 298 06m02s  
----- 3098 Jan 24 13:45:55 5027 13581 168 A 0.3172 0.9170 0.7S 5.6W 72 173 332 12m05s  
----- 3098 Jul 20 21:08:34 5031 13587 173 T 0.0692 1.0755 24.3N 113.5W 86 186 245 06m40s

# 32ND CENTURY CE

In the 32nd century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
											°	km	
GREATEST ECLIPSE													
----- 14	3101	May 20	07:37:31	5217	13622	A	-0.4003	0.9414	2.7S	94.1E	66	235	07m41s
----- 07	3101	Nov 13	14:23:09	5221	13628	T	0.3276	1.0375	0.1N	11.4W	71	133	03m32s

-----05 3102 May 09 10:26:36 5225 13634 A 0.3518 0.9752 36.3N 35.3E 69 94 02m23s  
 -----18 3102 Nov 03 02:10:00 5229 13640 A -0.4062 0.9866 36.5S 153.3E 66 51 01m13s  
 -----25 3104 Mar 19 02:22:05 5240 13657 T -0.8979 1.0426 52.7S 146.4W 26 318 02m44s  
 -----13 3104 Sep 11 15:26:43 5244 13663 An 0.9893 0.9456 61.6N 52.2E 7 - 03m44s  
 -----13 3105 Mar 08 16:59:16 5248 13669 H -0.2245 1.0137 16.4S 44.2W 77 48 01m13s  
 -----03 3105 Aug 31 21:48:37 5252 13675 Hm 0.1905 1.0107 18.1N 119.4W 79 37 01m00s  
 -----11 3106 Feb 26 01:49:11 5256 13681 A 0.5015 0.9546 17.8N 163.5E 60 189 04m50s  
 -----32 3107 Jul 12 21:21:18 5268 13698 P 1.2269 0.5833 64.3N 29.6E 0  
 -----20 3108 Jan 05 09:15:32 5272 13704 P -1.1207 0.7566 64.9S 143.7W 0  
 -----10 3108 Jul 01 11:07:05 5276 13710 H 0.5108 1.0132 53.2N 45.4E 59 53 01m05s  
 -----10 3108 Dec 24 17:32:05 5280 13716 H -0.3747 1.0071 45.3S 58.1W 68 27 00m37s  
 -----03 3109 Jun 20 17:57:04 5283 13722 A -0.2644 0.9626 8.1N 67.7W 75 140 04m55s  
 -----15 3109 Dec 14 07:47:00 5287 13728 T 0.3188 1.0479 4.5S 82.7E 71 168 04m40s  
 -----27 3111 Apr 30 07:44:44 5299 13745 P 1.0664 0.8629 70.7N 52.2W 0  
 -----15 3111 Oct 24 23:23:27 5303 13751 P -1.0286 0.9241 71.4S 79.6E 0  
 -----05 3112 Oct 13 02:21:06 5311 13763 A -0.3167 0.9389 25.6S 157.9E 71 239 07m21s  
 -----08 3113 Apr 08 11:15:45 5315 13769 T -0.4088 1.0585 16.1S 40.6E 66 210 05m11s  
 -----35 3114 Aug 22 20:29:10 5326 13786 Pe -1.5304 0.0178 71.1S 157.4W 0  
 -----22 3115 Feb 16 21:39:29 5330 13792 A+ 0.9970 0.9634 71.2N 169.1W 0  
 -----13 3115 Aug 12 11:22:49 5334 13798 T -0.7426 1.0674 32.2S 22.4E 42 327 05m38s  
 -----12 3116 Feb 05 21:46:51 5338 13804 A 0.3276 0.9173 2.7N 125.2W 71 332 11m48s  
 -----00 3116 Aug 01 04:36:29 5342 13810 Tm -0.0053 1.0739 17.5N 135.3E 90 240 06m41s  
 -----11 3117 Jan 24 21:48:12 5346 13816 A -0.3584 0.9391 40.1S 118.7W 69 242 06m37s  
 -----30 3118 Jun 11 14:06:32 5358 13833 P -1.2095 0.6044 65.2S 14.6E 0  
 -----18 3118 Dec 05 07:08:23 5362 13839 P 1.0236 0.9677 64.5N 123.9E 0  
 -----15 3119 May 31 14:27:29 5366 13845 A -0.4701 0.9443 5.5S 8.0W 62 232 07m28s  
 -----08 3119 Nov 24 22:43:30 5370 13851 T 0.3548 1.0323 0.4S 136.1W 69 116 03m09s  
 -----04 3120 May 19 17:44:57 5374 13857 A 0.2920 0.9812 36.1N 70.8W 73 70 01m50s  
 -----17 3120 Nov 13 10:02:55 5378 13863 A -0.3725 0.9809 38.2S 37.9E 68 73 01m46s  
 -----26 3122 Mar 30 10:52:38 5389 13880 T -0.9220 1.0433 51.9S 85.9E 22 368 02m50s  
 -----14 3122 Sep 22 22:22:21 5393 13886 P 1.0569 0.8692 61.1N 44.6W 0

----- 14 3123 Mar 20 01:25:14 5397 13892 H -0.2436 1.0131 13.0S 170.2W 76 46 01m11s  
 ----- 04 3123 Sep 12 05:05:12 5401 13898 H 0.2593 1.0119 17.5N 133.2E 75 42 01m06s  
 ----- -10 3124 Mar 08 09:58:47 5405 13904 A 0.4870 0.9540 20.7N 40.8E 61 189 04m46s  
 ----- 33 3125 Jul 23 04:47:58 5417 13921 P 1.3012 0.4409 63.5N 90.9W 0  
 ----- 21 3126 Jan 15 17:32:44 5421 13927 P -1.1266 0.7472 63.9S 83.0E 0  
 ----- 11 3126 Jul 12 18:14:52 5425 13933 H 0.5885 1.0097 56.3N 53.9W 54 41 00m45s  
 ----- 11 3127 Jan 05 02:09:01 5429 13939 H -0.3824 1.0086 44.8S 177.1E 67 32 00m44s  
 ----- -02 3127 Jul 02 00:39:48 5433 13945 A -0.1839 0.9620 12.5N 167.6W 79 140 04m52s  
 ----- -14 3127 Dec 25 16:30:49 5437 13951 T 0.3066 1.0471 5.6S 47.8W 72 165 04m33s  
 ----- 28 3129 May 10 15:16:03 5448 13968 P 1.1142 0.7796 69.8N 176.9W 0  
 ----- 16 3129 Nov 04 07:02:38 5452 13974 P -1.0714 0.8469 70.6S 47.7W 0  
 ----- 18 3130 Apr 30 03:24:00 5456 13980 T 0.3361 1.0448 33.9N 146.2E 70 158 03m50s  
 ----- 06 3130 Oct 24 09:30:48 5460 13986 A -0.3703 0.9348 32.8S 49.8E 68 261 07m35s  
 ----- -07 3131 Apr 19 19:32:35 5465 13992 T -0.3744 1.0616 10.2S 84.9W 68 217 05m35s  
 ----- 23 3133 Feb 27 05:47:09 5480 14015 A+ 1.0115 0.9386 71.9N 56.0E 0  
 ----- 14 3133 Aug 22 18:54:45 5484 14021 T -0.8120 1.0661 41.2S 95.7W 35 368 05m07s  
 ----- 13 3134 Feb 16 05:46:01 5488 14027 A 0.3394 0.9182 6.8N 114.6E 70 329 11m21s  
 ----- 01 3134 Aug 12 12:05:48 5492 14033 T -0.0784 1.0715 10.4N 22.3E 86 233 06m35s  
 ----- -10 3135 Feb 05 06:02:16 5496 14039 A -0.3503 0.9416 36.4S 120.1E 69 231 06m25s  
 ----- 31 3136 Jun 21 20:47:51 5508 14056 P -1.2886 0.4685 66.2S 95.2W 0  
 ----- 19 3136 Dec 15 15:48:20 5512 14062 P 1.0390 0.9376 65.5N 15.2W 0  
 ----- 16 3137 Jun 10 21:11:56 5516 14068 A -0.5449 0.9468 9.7S 109.1W 57 233 07m12s  
 ----- 09 3137 Dec 05 07:10:06 5520 14074 T 0.3765 1.0274 0.6S 97.5E 68 100 02m46s  
 ----- -03 3138 May 31 00:58:59 5524 14080 A 0.2276 0.9870 34.7N 175.7W 77 47 01m18s  
 ----- -16 3138 Nov 24 18:01:22 5528 14086 A -0.3440 0.9756 39.7S 78.5W 70 93 02m19s  
 ----- 27 3140 Apr 09 19:14:26 5540 14103 T -0.9534 1.0436 53.2S 37.8W 17 480 02m51s  
 ----- 15 3140 Oct 03 05:26:49 5544 14109 P 1.1177 0.7639 61.2N 158.7W 0  
 ----- 15 3141 Mar 30 09:42:12 5548 14115 H -0.2695 1.0127 10.0S 66.1E 74 45 01m10s  
 ----- 05 3141 Sep 22 12:29:56 5552 14121 H 0.3222 1.0127 16.6N 23.5E 71 46 01m10s  
 ----- -09 3142 Mar 19 17:59:30 5556 14127 A 0.4658 0.9538 23.7N 79.3W 62 188 04m41s  
 ----- 34 3143 Aug 03 12:11:53 5568 14144 P 1.3771 0.2960 62.8N 149.6E 0

----- 22 3144 Jan 27 01:53:36 5572 14150 P -1.1302 0.7416 63.1S 50.9W 0  
 ----- 12 3144 Jul 23 01:17:26 5576 14156 H 0.6698 1.0054 58.5N 150.3W 48 25 00m24s  
 ----- 12 3145 Jan 15 10:49:51 5580 14162 H -0.3872 1.0105 43.0S 50.8E 67 39 00m53s  
 ----- -01 3145 Jul 12 07:17:33 5584 14168 Am -0.0997 0.9608 16.3N 94.5E 84 143 04m50s  
 ----- -13 3146 Jan 05 01:19:18 5588 14174 T 0.2981 1.0466 5.6S 179.3W 73 162 04m26s  
 ----- 29 3147 May 21 22:43:49 5600 14191 P 1.1655 0.6887 68.9N 59.9E 0  
 ----- 17 3147 Nov 15 14:47:14 5604 14197 P -1.1090 0.7797 69.7S 175.6W 0  
 ----- 19 3148 May 10 11:19:16 5608 14203 T 0.3828 1.0497 40.1N 28.1E 67 179 04m05s  
 ----- 07 3148 Nov 03 16:48:25 5612 14209 A -0.4171 0.9310 39.4S 59.4W 65 284 07m45s  
 ----- -06 3149 Apr 30 03:41:55 5616 14215 T -0.3337 1.0645 4.3S 151.6E 70 223 05m58s  
 ----- 24 3151 Mar 10 13:47:51 5632 14238 P 1.0308 0.9057 72.3N 77.7W 0  
 ----- 15 3151 Sep 03 02:30:19 5636 14244 T -0.8784 1.0637 50.9S 142.9E 28 435 04m30s  
 ----- 14 3152 Feb 27 13:41:04 5640 14250 A 0.3544 0.9197 11.5N 4.7W 69 324 10m48s  
 ----- 02 3152 Aug 22 19:36:07 5644 14256 T -0.1499 1.0683 2.9N 91.5W 81 225 06m19s  
 ----- -09 3153 Feb 15 14:13:56 5649 14262 A -0.3396 0.9449 32.0S 1.4W 70 216 06m08s  
 ----- 32 3154 Jul 03 03:23:41 5660 14279 P -1.3714 0.3265 67.2S 156.0E 0  
 ----- 20 3154 Dec 27 00:33:10 5664 14285 P 1.0503 0.9153 66.5N 156.0W 0  
 ----- 17 3155 Jun 22 03:51:38 5669 14291 A -0.6235 0.9490 15.2S 150.3E 51 239 06m49s  
 ----- 10 3155 Dec 16 15:42:37 5673 14297 T 0.3927 1.0228 0.2S 30.4W 67 84 02m22s  
 ----- -02 3156 Jun 10 08:06:40 5677 14303 A 0.1571 0.9927 32.0N 80.7E 81 26 00m46s  
 ----- -15 3156 Dec 05 02:07:04 5681 14309 A -0.3225 0.9704 40.7S 163.7E 71 112 02m53s  
 ----- 28 3158 Apr 21 03:29:39 5693 14326 Ts -0.9899 1.0421 58.3S 153.9W 7 - 02m39s  
 ----- 16 3158 Oct 14 12:40:14 5697 14332 P 1.1716 0.6708 61.4N 84.9E 0  
 ----- 16 3159 Apr 10 17:52:34 5701 14338 H -0.3004 1.0124 7.6S 56.0W 72 44 01m10s  
 ----- 06 3159 Oct 03 20:01:00 5705 14344 H 0.3806 1.0131 15.6N 88.1W 68 48 01m12s  
 ----- -08 3160 Mar 30 01:53:34 5709 14350 A 0.4397 0.9540 26.5N 162.7E 64 185 04m36s  
 ----- 35 3161 Aug 13 19:37:05 5721 14367 P 1.4513 0.1553 62.2N 29.9E 0  
 ----- 23 3162 Feb 06 10:13:36 5725 14373 P -1.1352 0.7337 62.4S 175.7E 0  
 ----- 13 3162 Aug 03 08:19:34 5729 14379 H 0.7502 1.0004 59.8N 114.4E 41 2 00m02s  
 ----- 13 3163 Jan 26 19:31:05 5733 14385 H -0.3923 1.0129 40.3S 76.4W 67 48 01m04s  
 ----- 00 3163 Jul 23 13:52:56 5738 14391 A -0.0141 0.9593 19.1N 2.3W 89 148 04m50s

-----12 3164 Jan 16 10:09:49 5742 14397 T 0.2913 1.0465 4.7S 48.6E 73 162 04m20s  
 -----30 3165 Jun 01 06:04:31 5754 14414 P 1.2235 0.5848 67.9N 60.9W 0  
 -----18 3165 Nov 25 22:39:30 5758 14420 P -1.1396 0.7254 68.7S 55.1E 0  
 -----20 3166 May 21 19:07:42 5762 14426 T 0.4359 1.0542 46.1N 87.2W 64 199 04m15s  
 -----08 3166 Nov 15 00:14:56 5766 14432 A -0.4565 0.9273 45.2S 169.6W 63 307 07m53s  
 -----05 3167 May 11 11:43:44 5770 14438 T -0.2868 1.0672 1.4N 30.3E 73 229 06m18s  
 -----25 3169 Mar 20 21:41:29 5786 14461 P 1.0551 0.8645 72.4N 150.1E 0  
 -----16 3169 Sep 13 10:10:50 5790 14467 T -0.9408 1.0600 61.6S 14.5E 19 588 03m49s  
 -----15 3170 Mar 09 21:32:05 5795 14473 A 0.3726 0.9216 16.6N 123.2W 68 318 10m10s  
 -----03 3170 Sep 03 03:09:08 5799 14479 T -0.2189 1.0646 4.8S 153.6E 77 216 05m56s  
 -----08 3171 Feb 26 22:24:07 5803 14485 A -0.3272 0.9486 27.1S 123.3W 71 199 05m47s  
 -----33 3172 Jul 13 09:55:26 5815 14502 P -1.4563 0.1808 68.2S 47.7E 0  
 -----21 3173 Jan 06 09:21:40 5819 14508 P 1.0588 0.8987 67.6N 61.8E 0  
 -----18 3173 Jul 02 10:28:58 5823 14514 A -0.7041 0.9507 22.1S 49.4E 45 255 06m21s  
 -----11 3173 Dec 27 00:18:29 5827 14520 T 0.4054 1.0186 0.7N 159.3W 66 70 01m58s  
 -----01 3174 Jun 21 15:12:22 5831 14526 A 0.0842 0.9978 28.3N 23.2W 85 8 00m14s  
 -----14 3174 Dec 16 10:17:28 5836 14532 A -0.3059 0.9657 41.0S 44.9E 72 130 03m26s  
 -----29 3176 May 01 11:35:58 5848 14549 P -1.0337 0.9515 62.3S 88.4E 0  
 -----17 3176 Oct 24 20:03:48 5852 14555 P 1.2180 0.5907 61.9N 34.1W 0  
 -----17 3177 Apr 21 01:51:45 5856 14561 H -0.3400 1.0120 6.1S 175.2W 70 44 01m09s  
 -----07 3177 Oct 14 03:42:10 5860 14567 H 0.4314 1.0131 14.6N 157.4E 64 49 01m13s  
 -----07 3178 Apr 10 09:37:44 5864 14573 A 0.4060 0.9545 29.0N 47.9E 66 180 04m33s  
 -----36 3179 Aug 25 03:02:28 5876 14590 Pe 1.5246 0.0173 61.8N 89.7W 0  
 -----24 3180 Feb 17 18:33:35 5880 14596 P -1.1408 0.7250 61.9S 42.5E 0  
 -----14 3180 Aug 13 15:19:01 5885 14602 A 0.8318 0.9946 60.7N 21.0E 33 34 00m23s  
 -----14 3181 Feb 06 04:13:46 5889 14608 H2 -0.3968 1.0158 37.0S 155.3E 66 59 01m18s  
 -----01 3181 Aug 02 20:26:50 5893 14614 A 0.0723 0.9572 21.2N 98.3W 86 156 04m53s  
 -----11 3182 Jan 26 19:01:19 5897 14620 T 0.2853 1.0468 3.0S 83.9W 73 162 04m15s  
 -----31 3183 Jun 12 13:21:59 5909 14637 P 1.2845 0.4740 66.9N 179.6E 0  
 -----19 3183 Dec 07 06:36:48 5913 14643 P -1.1654 0.6801 67.6S 74.8W 0  
 -----21 3184 Jun 01 02:51:09 5918 14649 T 0.4937 1.0583 51.8N 160.2E 60 221 04m21s



----- 09 3184 Nov 25 07:49:01 5922 14655 A -0.4892 0.9241 50.0S 79.9E 60 329 07m58s  
 ----- -04 3185 May 21 19:38:05 5926 14661 T -0.2338 1.0694 6.9N 88.8W 77 232 06m32s  
 ----- 26 3187 Apr 01 05:26:11 5942 14684 P 1.0861 0.8122 72.3N 20.3E 0  
 ----- 17 3187 Sep 24 17:57:12 5947 14690 T- -0.9984 1.0234 72.2S 158.4W 0  
 ----- 16 3188 Mar 20 05:15:10 5951 14696 A 0.3975 0.9241 22.4N 120.2E 66 310 09m28s  
 ----- 04 3188 Sep 13 10:45:34 5955 14702 T -0.2844 1.0601 12.6S 37.8E 73 205 05m27s  
 ----- -07 3189 Mar 09 06:29:05 5959 14708 A -0.3097 0.9530 21.8S 115.5E 72 180 05m22s  
 ----- 34 3190 Jul 24 16:25:00 5971 14725 Pe -1.5419 0.0342 69.2S 60.6W 0  
 ----- 22 3191 Jan 17 18:13:12 5976 14731 P 1.0647 0.8871 68.7N 81.7W 0  
 ----- 19 3191 Jul 13 17:02:23 5980 14737 A -0.7881 0.9518 30.6S 51.7W 38 287 05m48s  
 ----- 12 3192 Jan 07 08:58:32 5984 14743 H 0.4142 1.0149 2.2N 70.7E 66 56 01m36s  
 ----- 00 3192 Jul 01 22:14:22 5988 14749 H 0.0075 1.0026 23.4N 126.9W 89 9 00m17s  
 ----- -13 3192 Dec 26 18:32:48 5992 14755 A -0.2937 0.9615 40.4S 75.0W 73 146 03m58s  
 ----- 30 3194 May 12 19:36:07 6005 14772 P -1.0825 0.8589 63.0S 40.0W 0  
 ----- 18 3194 Nov 05 03:35:16 6009 14778 P 1.2585 0.5206 62.4N 155.2W 0  
 ----- 18 3195 May 02 09:44:13 6013 14784 H -0.3846 1.0115 5.5S 67.3E 67 42 01m08s  
 ----- 08 3195 Oct 25 11:30:55 6017 14790 H 0.4766 1.0130 13.7N 40.7E 61 50 01m14s  
 ----- -06 3196 Apr 20 17:12:30 6022 14796 A 0.3652 0.9551 31.0N 64.0W 68 175 04m31s  
 ----- 25 3198 Feb 28 02:49:03 6038 14819 P -1.1507 0.7087 61.5S 89.4W 0  
 ----- 15 3198 Aug 24 22:21:10 6042 14825 A 0.9101 0.9878 61.5N 70.9W 24 103 00m50s  
 ----- 15 3199 Feb 17 12:54:11 6046 14831 T -0.4039 1.0192 33.3S 26.7E 66 71 01m35s  
 ----- 02 3199 Aug 14 02:59:58 6051 14837 A 0.1588 0.9547 22.5N 166.1E 81 167 05m00s  
 ----- -10 3200 Feb 07 03:52:28 6055 14843 T 0.2788 1.0476 0.6S 143.7E 74 164 04m12s

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3105 Mar 08 16:59:16 5083 13669 167 H -0.2245 1.0137 16.4S 44.9W 77 331 48 01m13s  
 ----- 3108 Jul 01 11:07:05 5110 13710 164 H 0.5108 1.0132 53.2N 44.7E 59 195 53 01m05s  
 ----- 3116 Feb 05 21:46:51 5170 13804 168 A 0.3276 0.9173 2.7N 126.0W 71 169 332 11m48s

---- 3116 Aug 01 04:36:29 5174 13810 173 Tm -0.0053 1.0739 17.5N 134.6E 90 15 240 06m41s  
 ---- 3123 Mar 20 01:25:14 5227 13892 167 H -0.2436 1.0131 13.0S 170.9W 76 330 46 01m11s  
 ---- 3123 Sep 12 05:05:12 5231 13898 172 H 0.2593 1.0119 17.5N 132.5E 75 210 42 01m06s  
 ---- 3134 Feb 16 05:46:01 5316 14027 168 A 0.3394 0.9182 6.8N 113.9E 70 166 329 11m21s  
 ---- 3134 Aug 12 12:05:48 5319 14033 173 T -0.0784 1.0715 10.4N 21.6E 86 13 233 06m35s  
 ---- 3141 Mar 30 09:42:12 5373 14115 167 H -0.2695 1.0127 10.0S 65.4E 74 331 45 01m10s  
 ---- 3141 Sep 22 12:29:56 5377 14121 172 H 0.3222 1.0127 16.6N 22.8E 71 210 46 01m10s  
 ---- 3152 Feb 27 13:41:04 5463 14250 168 A 0.3544 0.9197 11.5N 5.5W 69 164 324 10m48s  
 ---- 3152 Aug 22 19:36:07 5467 14256 173 T -0.1499 1.0683 2.9N 92.3W 81 15 225 06m19s  
 ---- 3159 Apr 10 17:52:34 5522 14338 167 H -0.3004 1.0124 7.6S 56.7W 72 332 44 01m10s  
 ---- 3159 Oct 03 20:01:00 5526 14344 172 H 0.3806 1.0131 15.6N 88.8W 68 210 48 01m12s  
 ---- 3163 Jan 26 19:31:05 5553 14385 169 H -0.3923 1.0129 40.3S 77.1W 67 335 48 01m04s  
 ---- 3167 May 11 11:43:44 5589 14438 176 T -0.2868 1.0672 1.4N 29.5E 73 351 229 06m18s  
 ---- 3170 Mar 09 21:32:05 5612 14473 168 A 0.3726 0.9216 16.6N 123.9W 68 162 318 10m10s  
 ---- 3171 Aug 23 16:59:52 5624 14491 183 H3 0.5520 1.0144 43.4N 39.0W 56 200 59 01m15s  
 ---- 3177 Apr 21 01:51:45 5672 14561 167 H -0.3400 1.0120 6.1S 175.9W 70 335 44 01m09s  
 ---- 3177 Oct 14 03:42:10 5676 14567 172 H 0.4314 1.0131 14.6N 156.6E 64 208 49 01m13s  
 ---- 3181 Feb 06 04:13:46 5704 14608 169 H2 -0.3968 1.0158 37.0S 154.5E 66 332 59 01m18s  
 ---- 3185 May 21 19:38:05 5740 14661 176 T -0.2338 1.0694 6.9N 89.6W 77 354 232 06m33s  
 ---- 3188 Mar 20 05:15:10 5764 14696 168 A 0.3975 0.9241 22.4N 119.4E 66 161 310 09m28s  
 ---- 3192 Jan 07 08:58:32 5796 14743 170 H 0.4142 1.0149 2.2N 69.9E 66 179 56 01m36s  
 ---- 3195 May 02 09:44:13 5824 14784 167 H -0.3846 1.0115 5.5S 66.5E 67 337 42 01m09s  
 ---- 3195 Oct 25 11:30:55 5828 14790 172 H 0.4766 1.0130 13.7N 39.9E 61 206 50 01m14s

## 33RD CENTURY CE

In the 33rd century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar

eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
			GREATEST								°	km	
			ECLIPSE										
----	32	3201 Jun 22	20:34:47	6067	14860	P	1.3499	0.3541	65.9N	61.7E	0		
----	20	3201 Dec 17	14:40:49	6071	14866	P	-1.1852	0.6456	66.5S	154.2E	0		
----	22	3202 Jun 12	10:29:30	6076	14872	T	0.5562	1.0617	57.1N	50.9E	56	245	04m23s
----	10	3202 Dec 06	15:30:21	6080	14878	A	-0.5159	0.9212	53.7S	30.7W	59	349	08m03s
----	-03	3203 Jun 02	03:26:13	6084	14884	T	-0.1756	1.0713	12.1N	154.2E	80	235	06m40s
----	27	3205 Apr 11	13:02:42	6101	14907	P	1.1231	0.7496	71.9N	107.3W	0		
----	18	3205 Oct 05	01:49:54	6105	14913	P	-1.0510	0.9212	72.1S	69.9E	0		
----	17	3206 Mar 31	12:52:07	6109	14919	A	0.4275	0.9269	28.5N	5.1E	65	302	08m44s
----	05	3206 Sep 24	18:26:50	6113	14925	T	-0.3455	1.0551	20.2S	79.3W	70	193	04m54s
----	-06	3207 Mar 20	14:30:31	6118	14931	A	-0.2888	0.9578	16.2S	5.3W	73	160	04m53s
----	23	3209 Jan 28	03:04:14	6134	14954	P	1.0711	0.8749	69.7N	134.3E	0		
----	20	3209 Jul 23	23:37:00	6138	14960	A	-0.8711	0.9520	40.9S	154.7W	29	358	05m12s
----	13	3210 Jan 17	17:39:31	6143	14966	H	0.4213	1.0117	4.3N	59.7W	65	45	01m15s
----	01	3210 Jul 13	05:16:37	6147	14972	H	-0.0699	1.0069	17.6N	128.4E	86	24	00m46s
----	-12	3211 Jan 07	02:49:49	6151	14978	A	-0.2840	0.9578	39.0S	164.4E	73	160	04m27s
----	31	3212 May 23	03:26:31	6164	14995	P	-1.1388	0.7514	63.8S	166.3W	0		
----	19	3212 Nov 15	11:17:54	6168	15001	P	1.2904	0.4655	63.1N	80.7E	0		
----	19	3213 May 12	17:25:49	6172	15007	H	-0.4372	1.0106	6.1S	47.5W	64	40	01m06s
----	09	3213 Nov 04	19:29:34	6176	15013	H	0.5140	1.0128	13.1N	78.9W	59	51	01m15s
----	-05	3214 May 02	00:37:04	6181	15019	A	0.3169	0.9558	32.3N	172.6W	71	169	04m32s

----- 26 3216 Mar 10 11:02:26 6197 15042 P -1.1629 0.6883 61.2S 139.3E 0  
 ----- 16 3216 Sep 04 05:23:49 6202 15048 A 0.9868 0.9786 62.3N 150.2W 8 513 01m21s  
 ----- 16 3217 Feb 27 21:32:10 6206 15054 T -0.4135 1.0230 29.5S 101.8W 65 85 01m54s  
 ----- 03 3217 Aug 24 09:35:12 6210 15060 A 0.2430 0.9519 23.2N 70.0E 76 181 05m13s  
 ----- -09 3218 Feb 17 12:42:24 6215 15066 T 0.2712 1.0488 2.4N 11.4E 74 168 04m12s  
 ----- 33 3219 Jul 04 03:46:45 6227 15083 P 1.4166 0.2307 65.0N 55.5W 0  
 ----- 21 3219 Dec 28 22:48:15 6231 15089 P -1.2013 0.6176 65.4S 22.8E 0  
 ----- 23 3220 Jun 22 18:03:29 6236 15095 T 0.6226 1.0645 61.6N 54.8W 51 271 04m20s  
 ----- 11 3220 Dec 16 23:18:23 6240 15101 A -0.5369 0.9188 55.8S 141.5W 57 366 08m06s  
 ----- -02 3221 Jun 12 11:08:26 6244 15107 T -0.1125 1.0724 16.7N 39.3E 84 237 06m40s  
 ----- 28 3223 Apr 22 20:28:46 6261 15130 P 1.1679 0.6739 71.2N 128.4E 0  
 ----- 19 3223 Oct 16 09:48:58 6265 15136 P -1.0983 0.8295 71.7S 63.0W 0  
 ----- 18 3224 Apr 10 20:20:10 6270 15142 A 0.4650 0.9300 35.1N 107.7W 62 295 07m58s  
 ----- 06 3224 Oct 05 02:13:39 6274 15148 T -0.4010 1.0497 27.7S 162.4E 66 180 04m18s  
 ----- -05 3225 Mar 30 22:23:58 6278 15154 A -0.2606 0.9631 10.3S 124.4W 75 138 04m19s  
 ----- 24 3227 Feb 08 11:55:28 6295 15177 P 1.0772 0.8632 70.6N 10.4W 0  
 ----- 21 3227 Aug 04 06:11:22 6299 15183 A -0.9544 0.9509 54.8S 97.9E 17 614 04m35s  
 ----- 14 3228 Jan 29 02:21:39 6304 15189 H 0.4273 1.0091 7.0N 169.5E 65 35 00m58s  
 ----- 02 3228 Jul 23 12:17:27 6308 15195 Hm -0.1493 1.0106 11.1N 23.2E 81 37 01m11s  
 ----- -11 3229 Jan 17 11:09:39 6312 15201 A -0.2771 0.9546 36.8S 42.6E 74 172 04m53s  
 ----- 32 3230 Jun 03 11:12:09 6325 15218 P -1.1988 0.6368 64.6S 68.4E 0  
 ----- 20 3230 Nov 26 19:08:34 6329 15224 P 1.3162 0.4210 63.9N 45.5W 0  
 ----- 20 3231 May 24 01:00:02 6333 15230 H -0.4952 1.0095 7.9S 160.7W 60 37 01m01s  
 ----- 10 3231 Nov 16 03:35:54 6338 15236 H 0.5457 1.0125 12.8N 159.4E 57 51 01m15s  
 ----- -04 3232 May 12 07:52:46 6342 15242 A 0.2620 0.9565 32.7N 81.5E 75 164 04m36s  
 ----- 27 3234 Mar 21 19:09:35 6359 15265 P -1.1811 0.6574 61.2S 9.5E 0  
 ----- 17 3234 Sep 15 12:30:20 6363 15271 P 1.0594 0.8754 61.1N 112.6E 0  
 ----- 17 3235 Mar 11 06:05:34 6368 15277 T -0.4275 1.0272 25.9S 130.4E 65 101 02m15s  
 ----- 04 3235 Sep 04 16:13:17 6372 15283 A 0.3244 0.9486 23.4N 27.0W 71 198 05m30s  
 ----- -08 3236 Feb 28 21:27:53 6376 15289 T 0.2599 1.0504 5.6N 119.7W 75 173 04m15s  
 ----- 34 3237 Jul 14 10:57:04 6389 15306 Pe 1.4851 0.1030 64.1N 172.0W 0

----- 22 3238 Jan 08 06:58:53 6393 15312 P -1.2143 0.5952 64.4S 109.0W 0  
 ----- 24 3238 Jul 04 01:34:36 6398 15318 T 0.6920 1.0664 65.0N 156.6W 46 301 04m15s  
 ----- 12 3238 Dec 28 07:12:23 6402 15324 A -0.5531 0.9170 56.4S 106.8E 56 379 08m09s  
 ----- -01 3239 Jun 23 18:44:34 6406 15330 Tm -0.0445 1.0730 20.8N 73.5W 88 237 06m34s  
 ----- 29 3241 May 03 03:45:42 6423 15353 P 1.2193 0.5866 70.4N 6.9E 0  
 ----- 20 3241 Oct 26 17:55:44 6428 15359 P -1.1394 0.7500 71.1S 162.5E 0  
 ----- 19 3242 Apr 22 03:41:59 6432 15365 A 0.5075 0.9332 41.9N 141.5E 59 289 07m12s  
 ----- 07 3242 Oct 16 10:05:20 6436 15371 T -0.4519 1.0441 35.0S 43.3E 63 164 03m42s  
 ----- -04 3243 Apr 11 06:12:49 6441 15377 A -0.2279 0.9687 4.3S 117.5E 77 115 03m42s  
 ----- 25 3245 Feb 18 20:43:30 6458 15400 P 1.0861 0.8465 71.4N 154.9W 0  
 ----- 22 3245 Aug 14 12:50:08 6462 15406 P -1.0345 0.9090 70.9S 28.9W 0  
 ----- 15 3246 Feb 08 11:00:42 6467 15412 H 0.4351 1.0069 10.5N 39.2E 64 26 00m43s  
 ----- 03 3246 Aug 03 19:21:42 6471 15418 H -0.2267 1.0136 4.0N 83.6W 77 48 01m31s  
 ----- -10 3247 Jan 28 19:28:43 6475 15424 A -0.2705 0.9521 33.7S 79.6W 74 182 05m16s  
 ----- 33 3248 Jun 13 18:49:45 6488 15441 P -1.2645 0.5110 65.6S 55.2W 0  
 ----- 21 3248 Dec 07 03:08:54 6492 15447 P 1.3349 0.3887 64.8N 174.5W 0  
 ----- 21 3249 Jun 03 08:24:31 6497 15453 H -0.5603 1.0078 11.1S 88.2E 56 32 00m51s  
 ----- 11 3249 Nov 26 11:52:09 6501 15459 H 0.5697 1.0124 12.7N 34.9E 55 52 01m16s  
 ----- -03 3250 May 23 14:59:10 6506 15465 A 0.1999 0.9570 31.9N 21.8W 78 160 04m43s  
 ----- 28 3252 Apr 01 03:11:27 6523 15488 P -1.2039 0.6178 61.3S 118.9W 0  
 ----- 18 3252 Sep 25 19:40:20 6527 15494 P 1.1278 0.7523 61.1N 2.8W 0  
 ----- 18 3253 Mar 21 14:34:33 6531 15500 T -0.4454 1.0316 22.5S 3.5E 63 118 02m38s  
 ----- 05 3253 Sep 14 22:55:41 6536 15506 A 0.4016 0.9451 23.3N 125.3W 66 218 05m52s  
 ----- -07 3254 Mar 11 06:09:24 6540 15512 T 0.2456 1.0523 8.9N 110.2E 76 178 04m19s  
 ----- 23 3256 Jan 19 15:10:37 6557 15535 P -1.2257 0.5757 63.5S 119.3E 0  
 ----- 25 3256 Jul 14 09:04:09 6562 15541 T 0.7631 1.0673 67.2N 104.9E 40 341 04m06s  
 ----- 13 3257 Jan 07 15:09:29 6566 15547 A -0.5666 0.9159 55.5S 5.9W 55 388 08m11s  
 ----- 00 3257 Jul 04 02:17:24 6571 15553 T 0.0260 1.0728 24.2N 175.2E 88 237 06m22s  
 ----- 30 3259 May 14 10:52:59 6588 15576 P 1.2777 0.4872 69.5N 111.5W 0  
 ----- 21 3259 Nov 07 02:10:00 6592 15582 P -1.1745 0.6826 70.3S 26.8E 0  
 ----- 20 3260 May 02 10:53:09 6597 15588 A 0.5591 0.9365 49.0N 33.8E 56 285 06m26s

----- 08 3260 Oct 26 18:04:36 6601 15594 T -0.4959 1.0382 41.8S 76.8W 60 147 03m06s  
 ----- -03 3261 Apr 21 13:53:24 6605 15600 A -0.1874 0.9745 1.8N 1.6E 79 93 03m01s  
 ----- 26 3263 Mar 02 05:29:09 6623 15623 P 1.0969 0.8265 71.9N 60.6E 0  
 ----- 23 3263 Aug 25 19:30:46 6627 15629 P -1.1131 0.7727 71.6S 141.6W 0  
 ----- 16 3264 Feb 19 19:38:39 6632 15635 H 0.4433 1.0051 14.4N 90.9W 64 20 00m32s  
 ----- 04 3264 Aug 14 02:28:00 6636 15641 H2 -0.3029 1.0161 3.5S 168.4E 72 58 01m45s  
 ----- -09 3265 Feb 08 03:46:31 6640 15647 A -0.2636 0.9502 29.9S 157.7E 75 189 05m35s  
 ----- 34 3266 Jun 25 02:23:46 6653 15664 P -1.3329 0.3802 66.6S 178.3W 0  
 ----- 22 3266 Dec 18 11:15:18 6658 15670 P 1.3492 0.3639 65.8N 54.7E 0  
 ----- 22 3267 Jun 14 15:43:08 6662 15676 H -0.6294 1.0056 15.6S 22.0W 51 25 00m37s  
 ----- 12 3267 Dec 07 20:15:14 6667 15682 H 0.5886 1.0126 13.0N 91.5W 54 53 01m18s  
 ----- -02 3268 Jun 02 21:56:25 6671 15688 Am 0.1308 0.9573 29.8N 123.0W 82 157 04m54s  
 ----- 29 3270 Apr 12 11:05:55 6688 15711 P -1.2333 0.5662 61.6S 114.5E 0  
 ----- 19 3270 Oct 07 02:56:27 6693 15717 P 1.1901 0.6414 61.3N 119.8W 0  
 ----- 19 3271 Apr 01 22:56:37 6697 15723 T -0.4697 1.0363 19.8S 121.7W 62 137 03m04s  
 ----- 06 3271 Sep 26 05:43:07 6702 15729 A 0.4743 0.9413 23.2N 134.7E 62 243 06m21s  
 ----- -06 3272 Mar 21 14:44:38 6706 15735 T 0.2260 1.0545 12.2N 18.2W 77 184 04m27s  
 ----- 24 3274 Jan 29 23:23:20 6723 15758 P -1.2361 0.5580 62.8S 12.3W 0  
 ----- 26 3274 Jul 25 16:32:20 6728 15764 T 0.8356 1.0672 68.0N 9.2E 33 400 03m55s  
 ----- 14 3275 Jan 18 23:10:09 6732 15770 A -0.5773 0.9153 53.3S 120.7W 54 393 08m12s  
 ----- 01 3275 Jul 15 09:46:23 6737 15776 T 0.0997 1.0719 26.8N 65.5E 84 235 06m05s  
 ----- 31 3277 May 24 17:52:27 6754 15799 P 1.3417 0.3780 68.5N 132.7E 0  
 ----- 22 3277 Nov 17 10:30:51 6759 15805 P -1.2043 0.6253 69.3S 110.0W 0  
 ----- 21 3278 May 13 17:58:55 6763 15811 A 0.6152 0.9397 56.3N 71.4W 52 284 05m43s  
 ----- 09 3278 Nov 07 02:09:51 6768 15817 T -0.5346 1.0324 48.0S 162.7E 57 129 02m33s  
 ----- -02 3279 May 02 21:28:15 6772 15823 A -0.1415 0.9805 7.8N 112.7W 82 70 02m18s  
 ----- 27 3281 Mar 12 14:08:09 6790 15846 P 1.1129 0.7964 72.2N 82.6W 0  
 ----- 24 3281 Sep 05 02:19:15 6794 15852 P -1.1856 0.6469 72.0S 103.2E 0  
 ----- 17 3282 Mar 02 04:11:21 6799 15858 H 0.4550 1.0038 19.0N 140.2E 63 15 00m23s  
 ----- 05 3282 Aug 25 09:38:51 6803 15864 T -0.3761 1.0180 11.3S 58.8E 68 66 01m53s  
 ----- -08 3283 Feb 19 12:00:36 6808 15870 A -0.2544 0.9488 25.5S 35.2E 75 194 05m52s

----- 35 3284 Jul 05 09:51:17 6820 15887 P -1.4059 0.2406 67.6S 59.9E 0  
 ----- 23 3284 Dec 28 19:29:42 6825 15893 P 1.3578 0.3487 66.9N 78.6W 0  
 ----- 23 3285 Jun 24 22:54:08 6830 15899 H -0.7039 1.0027 21.6S 131.0W 45 13 00m17s  
 ----- 13 3285 Dec 18 04:45:16 6834 15905 H 0.6025 1.0131 13.7N 140.1E 53 56 01m22s  
 ----- -01 3286 Jun 14 04:46:34 6839 15911 A 0.0565 0.9574 26.5N 137.1E 87 155 05m09s  
 ----- 30 3288 Apr 22 18:54:48 6856 15934 P -1.2678 0.5048 62.0S 10.8W 0  
 ----- 20 3288 Oct 17 10:18:17 6861 15940 P 1.2470 0.5412 61.6N 121.7E 0  
 ----- 20 3289 Apr 12 07:12:48 6865 15946 T -0.4995 1.0410 17.7S 114.4E 60 156 03m30s  
 ----- 07 3289 Oct 06 12:37:52 6870 15952 A 0.5408 0.9375 23.1N 32.5E 57 270 06m54s  
 ----- -05 3290 Apr 01 23:14:46 6874 15958 T 0.2020 1.0568 15.4N 145.0W 78 191 04m36s  
 ----- 25 3292 Feb 10 07:33:12 6892 15981 P -1.2482 0.5377 62.1S 143.0W 0  
 ----- 27 3292 Aug 05 00:01:29 6896 15987 T 0.9075 1.0658 67.7N 84.4W 24 514 03m39s  
 ----- 15 3293 Jan 29 07:11:00 6901 15993 A -0.5880 0.9154 50.4S 123.1E 54 395 08m11s  
 ----- 02 3293 Jul 25 17:14:44 6905 15999 T 0.1736 1.0701 28.5N 43.8W 80 232 05m46s  
 ----- 32 3295 Jun 05 00:42:06 6923 16022 P 1.4130 0.2563 67.5N 19.9E 0  
 ----- 23 3295 Nov 28 18:59:32 6927 16028 P -1.2281 0.5799 68.3S 111.9E 0  
 ----- 22 3296 May 24 00:55:40 6932 16034 A 0.6794 0.9428 63.7N 172.5W 47 290 05m02s  
 ----- 10 3296 Nov 17 10:23:03 6936 16040 T -0.5661 1.0266 53.4S 41.8E 55 110 02m03s  
 ----- -01 3297 May 13 04:55:21 6941 16046 A -0.0880 0.9864 13.7N 135.3E 85 48 01m35s  
 ----- 28 3299 Mar 23 22:43:04 6959 16069 P 1.1324 0.7600 72.3N 135.0E 0  
 ----- 25 3299 Sep 16 09:12:44 6963 16075 P -1.2544 0.5273 72.2S 13.4W 0  
 ----- 18 3300 Mar 13 12:38:49 6968 16081 H 0.4708 1.0028 24.1N 12.4E 62 11 00m17s  
 ----- 06 3300 Sep 05 16:54:28 6972 16087 T -0.4462 1.0192 19.3S 52.3W 63 73 01m55s

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3203 Jun 02 03:26:13 5893 14884 176 T -0.1756 1.0713 12.1N 153.4E 80 358 235 06m40s  
 ----- 3210 Jan 17 17:39:31 5950 14966 170 H 0.4213 1.0117 4.3N 60.5W 65 175 45 01m15s  
 ----- 3213 May 12 17:25:49 5978 15007 167 H -0.4372 1.0106 6.1S 48.3W 64 341 40 01m06s

# 34TH CENTURY CE

[illegible]



## ECLIPSE

-----07 3301 Mar 02 20:10:47 6977 16093 A -0.2424 0.9479 20.6S 86.9W 76 197 06m05s  
-----36 3302 Jul 17 17:17:19 6990 16110 Pe -1.4796 0.1004 68.6S 62.1W 0  
-----24 3303 Jan 10 03:47:54 6994 16116 P 1.3640 0.3377 67.9N 146.7E 0  
-----24 3303 Jul 07 05:59:42 6999 16122 A -0.7818 0.9990 29.3S 120.4E 38 5 00m06s  
-----14 3303 Dec 30 13:20:44 7004 16128 H2 0.6124 1.0139 14.8N 10.3E 52 60 01m27s  
-----00 3304 Jun 25 11:30:12 7008 16134 A -0.0224 0.9570 22.0N 38.2E 89 157 05m27s  
-----31 3306 May 05 02:36:34 7026 16157 P -1.3088 0.4309 62.6S 134.5W 0  
-----21 3306 Oct 29 17:46:27 7030 16163 P 1.2977 0.4527 62.0N 1.6E 0  
-----21 3307 Apr 24 15:21:41 7035 16169 T -0.5358 1.0457 16.7S 7.7W 57 178 03m58s  
-----08 3307 Oct 18 19:40:05 7040 16175 A 0.6008 0.9335 23.3N 72.0W 53 303 07m33s  
-----04 3308 Apr 13 07:35:50 7044 16181 T 0.1705 1.0593 18.0N 90.8E 80 198 04m48s  
-----26 3310 Feb 21 15:40:24 7062 16204 P -1.2618 0.5147 61.6S 87.2E 0  
-----28 3310 Aug 17 07:32:01 7067 16210 T 0.9784 1.0619 65.7N 170.1W 11 1038 03m12s  
-----16 3311 Feb 10 15:12:39 7071 16216 A -0.5981 0.9161 46.9S 5.2E 53 393 08m10s  
-----03 3311 Aug 07 00:40:32 7076 16222 T 0.2492 1.0676 29.6N 152.2W 75 228 05m26s  
-----33 3313 Jun 16 07:26:19 7093 16245 Pe 1.4877 0.1283 66.5N 90.9W 0  
-----24 3313 Dec 10 03:34:32 7098 16251 P -1.2471 0.5437 67.3S 27.3W 0  
-----23 3314 Jun 05 07:48:13 7103 16257 A 0.7470 0.9455 71.1N 91.6E 41 304 04m26s  
-----11 3314 Nov 29 18:41:23 7107 16263 T -0.5930 1.0211 57.9S 78.2W 53 90 01m35s  
-----00 3315 May 25 12:17:52 7112 16269 A -0.0298 0.9923 19.3N 25.1E 88 27 00m52s  
-----29 3317 Apr 04 07:09:55 7130 16292 P 1.1584 0.7111 72.0N 5.2W 0  
-----26 3317 Sep 27 16:14:59 7134 16298 P -1.3165 0.4192 72.2S 132.4W 0  
-----19 3318 Mar 24 20:58:34 7139 16304 H 0.4924 1.0020 29.8N 113.4W 60 8 00m11s  
-----07 3318 Sep 17 00:17:10 7144 16310 T -0.5112 1.0200 27.3S 165.4W 59 79 01m53s  
-----06 3319 Mar 14 04:14:01 7148 16316 A -0.2252 0.9476 15.2S 152.3E 77 197 06m16s  
-----25 3321 Jan 20 12:10:10 7166 16339 P 1.3674 0.3314 69.0N 10.4E 0  
-----25 3321 Jul 17 13:00:57 7171 16345 A -0.8621 0.9944 38.9S 11.4E 30 39 00m33s  
-----15 3322 Jan 09 22:01:36 7175 16351 T 0.6181 1.0152 16.3N 120.9W 52 66 01m33s  
-----01 3322 Jul 06 18:08:16 7180 16357 A -0.1054 0.9564 16.4N 60.2W 84 160 05m45s  
-----32 3324 May 15 10:12:08 7198 16380 P -1.3555 0.3458 63.3S 103.1E 0

----- 22 3324 Nov 09 01:21:55 7202 16386 P 1.3417 0.3768 62.6N 120.4W 0  
 ----- 22 3325 May 04 23:25:06 7207 16392 T -0.5774 1.0501 16.6S 128.5W 55 201 04m26s  
 ----- 09 3325 Oct 29 02:49:39 7212 16398 A 0.6545 0.9297 23.8N 178.9W 49 340 08m14s  
 ----- -03 3326 Apr 24 15:51:23 7216 16404 T 0.1344 1.0616 20.1N 31.6W 82 204 05m02s  
 ----- 27 3328 Mar 03 23:42:09 7234 16427 P -1.2795 0.4849 61.3S 41.2W 0  
 ----- 29 3328 Aug 27 15:06:31 7239 16433 P 1.0465 0.9339 61.6N 92.2E 0  
 ----- 17 3329 Feb 20 23:10:12 7244 16439 A -0.6120 0.9175 43.4S 112.4W 52 390 08m07s  
 ----- 04 3329 Aug 17 08:08:47 7248 16445 T 0.3225 1.0643 29.9N 98.8E 71 222 05m04s  
 ----- 25 3331 Dec 21 12:15:55 7271 16474 P -1.2610 0.5174 66.2S 167.5W 0  
 ----- 24 3332 Jun 15 14:32:53 7276 16480 A 0.8215 0.9477 78.3N 8.8E 34 341 03m56s  
 ----- 12 3332 Dec 10 03:07:09 7280 16486 T -0.6132 1.0159 60.8S 162.1E 52 69 01m11s  
 ----- 01 3333 Jun 04 19:34:34 7285 16492 A 0.0342 0.9980 24.6N 83.0W 88 7 00m13s  
 ----- 30 3335 Apr 15 15:30:11 7303 16515 P 1.1899 0.6518 71.6N 143.4W 0  
 ----- 27 3335 Oct 08 23:24:26 7308 16521 P -1.3735 0.3201 72.0S 107.0E 0  
 ----- 20 3336 Apr 04 05:11:35 7312 16527 H 0.5192 1.0014 35.8N 122.5E 59 6 00m08s  
 ----- 08 3336 Sep 27 07:46:54 7317 16533 T -0.5710 1.0202 35.3S 79.6E 55 84 01m48s  
 ----- -05 3337 Mar 24 12:10:12 7322 16539 A -0.2028 0.9476 9.6S 32.8E 78 196 06m24s  
 ----- 26 3339 Jan 31 20:33:45 7340 16562 P 1.3705 0.3255 69.9N 126.8W 0  
 ----- 26 3339 Jul 28 19:59:30 7344 16568 A -0.9434 0.9883 51.7S 100.2W 19 126 01m01s  
 ----- 16 3340 Jan 21 06:44:20 7349 16574 T 0.6231 1.0169 18.5N 107.2E 51 74 01m42s  
 ----- 02 3340 Jul 17 00:42:38 7354 16580 A -0.1910 0.9552 9.9N 158.6W 79 167 06m03s  
 ----- 33 3342 May 26 17:41:58 7372 16603 P -1.4075 0.2501 64.1S 18.0W 0  
 ----- 23 3342 Nov 20 09:04:29 7376 16609 P 1.3791 0.3131 63.4N 115.5E 0  
 ----- 10 3343 Nov 09 10:08:29 7386 16621 A 0.7003 0.9259 24.7N 71.3E 45 381 08m56s  
 ----- -02 3344 May 04 23:57:51 7391 16627 T 0.0910 1.0637 21.3N 151.3W 85 210 05m18s  
 ----- 28 3346 Mar 15 07:39:13 7409 16650 P -1.3006 0.4495 61.1S 168.3W 0  
 ----- 23 3343 May 16 07:20:08 7381 16615 T -0.6263 1.0542 17.8S 112.7E 51 228 04m51s  
 ----- 30 3346 Sep 07 22:43:18 7413 16656 P 1.1128 0.8052 61.4N 30.1W 0  
 ----- 18 3347 Mar 04 07:06:04 7418 16662 A -0.6273 0.9193 39.9S 129.5E 51 385 08m02s  
 ----- 05 3347 Aug 28 15:37:09 7423 16668 T 0.3954 1.0602 29.8N 10.5W 67 214 04m43s  
 ----- 26 3349 Dec 31 21:00:17 7446 16697 P -1.2728 0.4953 65.2S 52.1E 0

----- 25 3350 Jun 26 21:16:06 7450 16703 A 0.8975 0.9491 82.0N 37.4W 26 430 03m30s  
 ----- 13 3350 Dec 21 11:36:58 7455 16709 H -0.6297 1.0111 62.3S 43.0E 51 49 00m49s  
 ----- 02 3351 Jun 16 02:47:00 7460 16715 H 0.1028 1.0033 29.2N 170.7E 84 12 00m21s  
 ----- 31 3353 Apr 25 23:41:33 7478 16738 P 1.2286 0.5786 70.9N 81.1E 0  
 ----- 28 3353 Oct 19 06:44:49 7483 16744 P -1.4222 0.2352 71.5S 16.1W 0  
 ----- 21 3354 Apr 15 13:15:34 7488 16750 H 0.5527 1.0008 42.2N 0.9E 56 3 00m04s  
 ----- 09 3354 Oct 08 15:24:22 7492 16756 T -0.6252 1.0201 43.1S 37.1W 51 87 01m40s  
 ----- -04 3355 Apr 04 19:57:46 7497 16762 A -0.1738 0.9480 3.7S 84.7W 80 194 06m29s  
 ----- 27 3357 Feb 11 04:58:24 7515 16785 P 1.3732 0.3201 70.8N 95.0E 0  
 ----- 27 3357 Aug 08 02:56:15 7520 16791 P -1.0252 0.9392 70.5S 131.6E 0  
 ----- 17 3358 Jan 31 15:28:59 7525 16797 T 0.6271 1.0191 21.2N 25.1W 51 84 01m52s  
 ----- 03 3358 Jul 28 07:14:42 7530 16803 A -0.2780 0.9536 2.6N 102.7E 74 176 06m18s  
 ----- 34 3360 Jun 06 01:07:24 7548 16826 P -1.4633 0.1464 65.0S 138.3W 0  
 ----- 24 3360 Nov 30 16:53:43 7553 16832 P 1.4103 0.2606 64.2N 10.4W 0  
 ----- 24 3361 May 26 15:10:43 7557 16838 T -0.6793 1.0578 20.3S 5.3W 47 258 05m12s  
 ----- 11 3361 Nov 19 17:35:39 7562 16844 A 0.7389 0.9225 26.0N 41.1W 42 426 09m36s  
 ----- -01 3362 May 16 07:58:26 7567 16850 Tm 0.0426 1.0656 21.6N 90.6E 87 215 05m35s  
 ----- 29 3364 Mar 25 15:26:47 7585 16873 P -1.3287 0.4019 61.1S 66.9E 0  
 ----- 31 3364 Sep 18 06:26:13 7590 16879 P 1.1742 0.6861 61.3N 153.8W 0  
 ----- 19 3365 Mar 14 14:55:20 7595 16885 A -0.6483 0.9217 36.9S 12.7E 49 380 07m56s  
 ----- 06 3365 Sep 07 23:09:08 7600 16891 T 0.4647 1.0556 29.4N 121.0W 62 205 04m21s  
 ----- 27 3368 Jan 12 05:49:25 7623 16920 P -1.2809 0.4802 64.3S 89.2W 0  
 ----- 26 3368 Jul 07 03:54:56 7627 16926 A 0.9777 0.9486 73.8N 74.9W 11 965 03m09s  
 ----- 14 3368 Dec 31 20:11:34 7632 16932 H -0.6419 1.0067 61.9S 77.0W 50 31 00m30s  
 ----- 03 3369 Jun 26 09:56:15 7637 16938 Hm 0.1750 1.0082 33.3N 66.1E 80 29 00m49s  
 ----- 32 3371 May 07 07:46:17 7655 16961 P 1.2726 0.4952 70.1N 52.0W 0  
 ----- 29 3371 Oct 30 14:13:52 7660 16967 P -1.4645 0.1617 70.8S 140.8W 0  
 ----- 22 3372 Apr 25 21:10:41 7665 16973 H 0.5929 1.0000 49.0N 118.1W 53 0 00m00s  
 ----- 10 3372 Oct 18 23:10:32 7670 16979 T -0.6728 1.0196 50.6S 155.7W 47 90 01m32s  
 ----- -03 3373 Apr 15 03:37:29 7675 16985 A -0.1391 0.9486 2.3N 159.7E 82 191 06m32s  
 ----- 28 3375 Feb 22 13:20:49 7693 17008 P 1.3785 0.3101 71.5N 43.2W 0

----- 28 3375 Aug 19 09:52:27 7698 17014 P -1.1063 0.7926 71.2S 15.4E 0  
 ----- 18 3376 Feb 12 00:12:54 7703 17020 T 0.6320 1.0219 24.5N 157.4W 51 96 02m03s  
 ----- 04 3376 Aug 07 13:46:52 7707 17026 A -0.3642 0.9515 5.3S 3.3E 69 190 06m30s  
 ----- 35 3378 Jun 17 08:27:56 7726 17049 Pe -1.5236 0.0332 65.9S 102.2E 0  
 ----- 25 3378 Dec 12 00:49:28 7731 17055 P 1.4355 0.2188 65.2N 138.2W 0  
 ----- 25 3379 Jun 06 22:54:10 7736 17061 T -0.7386 1.0608 24.3S 122.0W 42 295 05m25s  
 ----- 12 3379 Dec 01 01:11:52 7740 17067 A 0.7703 0.9195 27.5N 156.3W 39 473 10m11s  
 ----- 00 3380 May 26 15:49:54 7745 17073 T -0.0133 1.0670 20.7N 25.1W 89 219 05m53s  
 ----- 30 3382 Apr 05 23:07:52 7764 17096 P -1.3616 0.3464 61.3S 56.2W 0  
 ----- 32 3382 Sep 29 14:13:38 7769 17102 P 1.2319 0.5743 61.3N 81.4E 0  
 ----- 20 3383 Mar 25 22:39:41 7773 17108 A -0.6736 0.9244 34.4S 103.1W 47 375 07m49s  
 ----- 07 3383 Sep 19 06:43:36 7778 17114 T 0.5314 1.0503 29.0N 127.4E 58 194 03m58s  
 ----- 28 3386 Jan 22 14:39:48 7802 17143 P -1.2885 0.4660 63.4S 129.5E 0  
 ----- 27 3386 Jul 18 10:33:27 7806 17149 P 1.0583 0.8684 63.7N 164.0W 0  
 ----- 15 3387 Jan 12 04:48:21 7811 17155 H -0.6520 1.0029 60.2S 161.1E 49 13 00m13s  
 ----- 04 3387 Jul 07 17:03:52 7816 17161 H 0.2498 1.0126 36.5N 37.4W 75 45 01m11s  
 ----- 33 3389 May 17 15:42:38 7835 17184 P 1.3232 0.3991 69.2N 177.6E 0  
 ----- 30 3389 Nov 09 21:52:35 7840 17190 P -1.4998 0.1004 70.0S 92.7E 0  
 ----- 23 3390 May 07 04:56:31 7845 17196 A 0.6403 0.9991 56.0N 126.0E 50 4 00m05s  
 ----- 11 3390 Oct 30 07:05:43 7849 17202 T -0.7138 1.0190 57.7S 84.4E 44 93 01m24s  
 ----- -02 3391 Apr 26 11:05:54 7854 17208 Am -0.0952 0.9494 8.4N 47.1E 85 187 06m30s  
 ----- 29 3393 Mar 04 21:40:44 7873 17231 P 1.3865 0.2951 72.0N 178.8E 0  
 ----- 29 3393 Aug 29 16:50:10 7878 17237 P -1.1850 0.6512 71.8S 101.7W 0  
 ----- 19 3394 Feb 22 08:56:29 7883 17243 T 0.6379 1.0250 28.3N 70.4E 50 110 02m15s  
 ----- 05 3394 Aug 18 20:17:57 7887 17249 A -0.4510 0.9490 13.8S 96.5W 63 208 06m35s  
 ----- 26 3396 Dec 22 08:50:22 7911 17278 P 1.4560 0.1852 66.2N 92.3E 0  
 ----- 26 3397 Jun 17 06:34:43 7916 17284 T -0.8009 1.0630 29.9S 121.4E 37 345 05m28s  
 ----- 13 3397 Dec 11 08:53:43 7921 17290 A 0.7971 0.9169 29.5N 86.6E 37 520 10m36s  
 ----- 01 3398 Jun 06 23:36:42 7926 17296 T -0.0731 1.0680 18.7N 139.9W 86 222 06m09s  
 ----- 31 3400 Apr 17 06:38:31 7944 17319 P -1.4020 0.2777 61.7S 176.8W 0  
 ----- 33 3400 Oct 10 22:08:39 7949 17325 P 1.2836 0.4746 61.5N 45.3W 0

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST										°	°	
		ECLIPSE												

-----	3303	Dec 30	13:20:44	6783	16128	172 H2	0.6124	1.0139	14.8N	9.4E	52	182	60	01m27s
-----	3330	Aug 06	21:45:09	7029	16457	186 H	-0.4507	1.0135	8.8S	124.9W	63	22	51	01m22s
-----	3337	Sep 16	22:31:59	7096	16545	185 T	0.1835	1.0688	12.1N	126.1W	79	198	228	06m06s
-----	3352	Nov 28	22:50:10	7239	16733	193 A	0.7978	0.9219	31.7N	132.2W	37	184	490	09m48s
-----	3355	Sep 28	06:18:03	7266	16768	185 T	0.1237	1.0678	4.6N	115.9E	83	197	223	06m06s
-----	3361	Nov 19	17:35:39	7324	16844	174 A	0.7389	0.9225	26.0N	42.0W	42	200	426	09m36s
-----	3370	Dec 10	06:33:12	7411	16956	193 A	0.7724	0.9194	28.0N	109.7E	39	179	482	10m31s
-----	3373	Oct 08	14:10:28	7438	16991	185 T	0.0690	1.0665	2.6S	3.4W	86	197	218	06m01s
-----	3379	Dec 01	01:11:52	7497	17067	174 A	0.7703	0.9195	27.5N	157.3W	39	195	473	10m11s
-----	3387	Jul 07	17:03:52	7570	17161	178 H	0.2498	1.0126	36.5N	38.4W	75	194	45	01m11s
-----	3388	Dec 20	14:22:50	7585	17179	193 A	0.7523	0.9173	25.5N	9.7W	41	175	477	10m59s
-----	3397	Dec 11	08:53:43	7672	17290	174 A	0.7971	0.9169	29.5N	85.6E	37	191	520	10m36s
-----	3398	Jun 06	23:36:42	7677	17296	179 T	-0.0731	1.0680	18.7N	140.9W	86	349	222	06m09s

35TH CENTURY CE

In the 35th century CE the total number of solar eclipses will be ---- solar eclipses:

---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar

eclipses.

	SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
	NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
				GREATEST								°	km	
				ECLIPSE										
----	21	3401	Apr 06	06:15:19	7954	17331	A	-0.7062	0.9274	32.9S	143.2E	45	374	07m39s
----	08	3401	Sep 30	14:24:12	7959	17337	T	0.5924	1.0445	28.6N	13.8E	54	181	03m35s
----	29	3404	Feb 03	23:31:04	7983	17366	P	-1.2954	0.4531	62.7S	11.7W	0		
----	28	3404	Jul 29	17:11:11	7988	17372	P	1.1399	0.7273	63.0N	88.1E	0		
----	16	3405	Jan 23	13:27:37	7993	17378	A	-0.6597	0.9996	57.2S	36.7E	48	2	00m02s
----	05	3405	Jul 19	00:10:40	7997	17384	H2	0.3259	1.0165	38.8N	140.0W	71	60	01m28s
----	34	3407	May 29	23:31:28	8016	17407	P	1.3796	0.2919	68.2N	49.7E	0		
----	31	3407	Nov 22	05:40:53	8021	17413	P	-1.5281	0.0512	69.0S	35.7W	0		
----	24	3408	May 18	12:34:04	8026	17419	A	0.6939	0.9978	63.2N	13.6E	46	11	00m10s
----	12	3408	Nov 10	15:09:24	8031	17425	T	-0.7485	1.0183	64.4S	36.1W	41	95	01m17s
----	-01	3409	May 07	18:26:19	8036	17431	A	-0.0453	0.9501	14.5N	63.1W	87	183	06m25s
----	30	3411	Mar 17	05:56:23	8055	17454	P	1.3984	0.2729	72.2N	41.4E	0		
----	30	3411	Sep 10	23:50:10	8060	17460	P	-1.2604	0.5171	72.2S	140.2E	0		
----	20	3412	Mar 05	17:35:08	8065	17466	T	0.6481	1.0286	32.8N	60.8W	49	126	02m28s
----	06	3412	Aug 30	02:52:38	8070	17472	A	-0.5340	0.9461	22.6S	162.1E	58	233	06m37s
----	27	3415	Jan 03	16:55:57	8093	17501	P	1.4720	0.1592	67.3N	38.9W	0		
----	27	3415	Jun 29	14:08:58	8098	17507	T	-0.8684	1.0641	37.5S	5.4E	29	425	05m17s
----	14	3415	Dec 23	16:44:00	8103	17513	A	0.8167	0.9149	31.5N	33.0W	35	562	10m51s
----	02	3416	Jun 18	07:16:16	8108	17519	T	-0.1383	1.0683	15.4N	106.7E	82	225	06m21s
----	32	3418	Apr 28	14:01:32	8127	17542	P	-1.4481	0.1994	62.2S	64.4E	0		
----	34	3418	Oct 22	06:09:00	8132	17548	P	1.3309	0.3839	61.8N	173.4W	0		
----	22	3419	Apr 17	13:45:13	8137	17554	A	-0.7437	0.9307	32.4S	30.8E	42	376	07m27s
----	09	3419	Oct 11	22:09:26	8142	17560	T	0.6490	1.0384	28.5N	101.4W	49	166	03m09s
----	30	3422	Feb 14	08:20:23	8166	17589	P	-1.3040	0.4370	62.1S	152.2W	0		
----	29	3422	Aug 09	23:51:38	8171	17595	P	1.2196	0.5888	62.4N	20.3W	0		

----- 17 3423 Feb 03 22:05:50 8176 17601 A -0.6677 0.9969 53.7S 89.4W 48 15 00m14s  
 ----- 06 3423 Jul 30 07:17:37 8181 17607 T 0.4028 1.0197 40.4N 117.7E 66 73 01m40s  
 ----- 35 3425 Jun 09 07:13:18 8200 17630 P 1.4414 0.1744 67.2N 76.0W 0  
 ----- 32 3425 Dec 02 13:38:46 8205 17636 Pe -1.5498 0.0134 68.0S 165.8W 0  
 ----- 25 3426 May 29 20:01:37 8210 17642 A 0.7550 0.9960 70.8N 93.3W 41 22 00m17s  
 ----- 13 3426 Nov 21 23:21:50 8215 17648 T -0.7766 1.0177 70.2S 155.8W 39 97 01m11s  
 ----- 00 3427 May 19 01:35:56 8220 17654 A 0.0132 0.9509 20.5N 170.2W 89 180 06m15s  
 ----- 31 3429 Mar 27 14:07:42 8239 17677 P 1.4144 0.2433 72.1N 94.9W 0  
 ----- 31 3429 Sep 21 06:52:35 8244 17683 P -1.3327 0.3896 72.3S 21.2E 0  
 ----- 21 3430 Mar 17 02:11:09 8249 17689 T 0.6611 1.0324 37.8N 168.7E 48 145 02m40s  
 ----- 07 3430 Sep 10 09:29:23 8254 17695 A -0.6148 0.9428 31.7S 59.6E 52 265 06m34s  
 ----- 28 3433 Jan 14 01:03:03 8278 17724 P 1.4861 0.1364 68.4N 170.9W 0  
 ----- 28 3433 Jul 09 21:42:46 8283 17730 T -0.9367 1.0637 48.0S 112.2W 20 605 04m50s  
 ----- 15 3434 Jan 03 00:38:28 8288 17736 A 0.8327 0.9134 33.9N 154.1W 33 599 10m52s  
 ----- 03 3434 Jun 29 14:51:32 8293 17742 T -0.2070 1.0679 11.1N 6.2W 78 226 06m29s  
 ----- 33 3436 May 08 21:13:13 8312 17765 P -1.5026 0.1065 62.8S 51.7W 0  
 ----- 35 3436 Nov 01 14:18:00 8317 17771 P 1.3714 0.3068 62.3N 56.2E 0  
 ----- 23 3437 Apr 27 21:06:24 8322 17777 A -0.7887 0.9339 33.4S 79.4W 38 390 07m11s  
 ----- 10 3437 Oct 22 06:00:44 8327 17783 T 0.6999 1.0320 28.8N 141.4E 45 148 02m42s  
 ----- 31 3440 Feb 25 17:07:57 8351 17812 P -1.3140 0.4182 61.6S 67.9E 0  
 ----- 30 3440 Aug 20 06:35:03 8356 17818 P 1.2972 0.4533 61.9N 129.3W 0  
 ----- 18 3441 Feb 14 06:42:33 8361 17824 A -0.6765 0.9946 50.0S 143.5E 47 25 00m25s  
 ----- 07 3441 Aug 09 14:26:58 8366 17830 T 0.4785 1.0222 41.2N 14.8E 61 86 01m49s  
 ----- 36 3443 Jun 20 14:48:56 8385 17853 Pe 1.5079 0.0482 66.2N 160.5E 0  
 ----- 26 3444 Jun 09 03:21:41 8395 17865 A 0.8213 0.9935 78.4N 170.0E 34 40 00m26s  
 ----- 14 3444 Dec 02 07:42:07 8400 17871 T -0.7989 1.0172 75.0S 88.1E 37 99 01m07s  
 ----- 01 3445 May 29 08:38:34 8406 17877 A 0.0767 0.9514 26.2N 85.1E 85 178 06m02s  
 ----- 32 3447 Apr 07 22:11:35 8425 17900 P 1.4369 0.2015 71.8N 130.9E 0  
 ----- 32 3447 Oct 02 14:00:16 8430 17906 P -1.3996 0.2731 72.2S 99.1W 0  
 ----- 22 3448 Mar 27 10:40:10 8435 17912 T 0.6803 1.0364 43.4N 39.9E 47 166 02m50s  
 ----- 08 3448 Sep 20 16:12:43 8440 17918 A -0.6899 0.9392 40.9S 45.2W 46 308 06m27s

----- 29 3451 Jan 25 09:12:47 8464 17947 P 1.4973 0.1183 69.4N 55.8E 0  
 ----- 29 3451 Jul 21 05:12:54 8469 17953 T- -1.0077 1.0088 68.9S 121.7E 0  
 ----- 16 3452 Jan 14 08:38:04 8474 17959 A 0.8446 0.9126 36.5N 83.2E 32 625 10m42s  
 ----- 04 3452 Jul 09 22:21:45 8479 17965 T -0.2794 1.0668 5.7N 118.5W 74 227 06m28s  
 ----- 34 3454 May 20 04:17:52 8499 17988 Pe -1.5619 0.0051 63.5S 166.3W 0  
 ----- 36 3454 Nov 12 22:33:20 8504 17994 P 1.4067 0.2400 63.0N 75.9W 0  
 ----- 24 3455 May 09 04:20:02 8509 18000 A -0.8399 0.9370 36.1S 172.3E 33 422 06m50s  
 ----- 11 3455 Nov 02 13:58:22 8514 18006 T 0.7449 1.0256 29.5N 22.0E 42 128 02m13s  
 ----- 32 3458 Mar 08 01:51:07 8538 18035 P -1.3276 0.3926 61.4S 70.8W 0  
 ----- 31 3458 Aug 31 13:22:16 8543 18041 P 1.3720 0.3223 61.6N 120.9E 0  
 ----- 19 3459 Feb 25 15:15:44 8549 18047 A -0.6877 0.9928 46.2S 16.3E 46 34 00m34s  
 ----- 08 3459 Aug 20 21:39:17 8554 18053 T 0.5527 1.0241 41.4N 89.0W 56 97 01m55s  
 ----- 27 3462 Jun 20 10:33:39 8583 18088 A 0.8934 0.9901 84.0N 116.7E 26 78 00m37s  
 ----- 15 3462 Dec 13 16:10:14 8588 18094 T -0.8153 1.0170 77.8S 21.6W 35 101 01m04s  
 ----- 02 3463 Jun 09 15:30:20 8593 18100 A 0.1487 0.9518 31.6N 16.0W 81 179 05m46s  
 ----- 33 3465 Apr 18 06:10:09 8613 18123 P 1.4644 0.1504 71.3N 1.6W 0  
 ----- 33 3465 Oct 12 21:13:11 8618 18129 P -1.4614 0.1668 71.9S 139.5E 0  
 ----- 23 3466 Apr 07 19:04:43 8623 18135 T 0.7036 1.0405 49.4N 87.8W 45 190 03m00s  
 ----- 09 3466 Oct 01 23:00:02 8628 18141 A -0.7612 0.9353 50.4S 152.1W 40 368 06m17s  
 ----- 30 3469 Feb 04 17:21:26 8653 18170 P 1.5084 0.1004 70.4N 77.9W 0  
 ----- 30 3469 Jul 31 12:43:56 8658 18176 P -1.0783 0.8723 69.8S 2.2W 0  
 ----- 17 3470 Jan 24 16:38:42 8663 18182 A 0.8554 0.9124 39.5N 40.1W 31 646 10m19s  
 ----- 05 3470 Jul 21 05:49:57 8668 18188 T -0.3529 1.0649 0.5S 128.9E 69 227 06m18s  
 ----- 37 3472 Nov 23 06:56:18 8693 18217 P 1.4357 0.1855 63.7N 149.9E 0  
 ----- 25 3473 May 19 11:25:43 8698 18223 A -0.8976 0.9396 41.1S 66.0E 26 501 06m23s  
 ----- 12 3473 Nov 12 22:03:21 8703 18229 T 0.7827 1.0192 30.6N 99.8W 38 104 01m43s  
 ----- 33 3476 Mar 18 10:28:45 8728 18258 P -1.3457 0.3586 61.3S 152.0E 0  
 ----- 32 3476 Sep 10 20:15:39 8733 18264 P 1.4423 0.1990 61.4N 9.6E 0  
 ----- 20 3477 Mar 07 23:45:07 8738 18270 A -0.7016 0.9913 42.8S 110.6W 45 42 00m42s  
 ----- 09 3477 Aug 31 04:54:55 8743 18276 T 0.6247 1.0253 41.5N 166.0E 51 109 01m58s  
 ----- 28 3480 Jun 30 17:40:21 8773 18311 A 0.9687 0.9850 76.8N 85.2E 14 225 00m52s



----- 16 3480 Dec 24 00:43:17 8778 18317 T -0.8282 1.0171 78.0S 127.8W 34 106 01m04s  
 ----- 03 3481 Jun 19 22:17:21 8783 18323 A 0.2240 0.9518 36.3N 114.9W 77 181 05m30s  
 ----- 34 3483 Apr 29 14:01:00 8803 18346 P 1.4987 0.0863 70.6N 131.6W 0  
 ----- 34 3483 Oct 24 04:33:10 8808 18352 Pe -1.5162 0.0737 71.3S 16.8E 0  
 ----- 24 3484 Apr 18 03:20:27 8813 18358 T 0.7345 1.0446 56.0N 146.6E 42 219 03m07s  
 ----- 10 3484 Oct 12 05:56:32 8819 18364 A -0.8246 0.9313 59.7S 97.2E 34 453 06m06s  
 ----- 31 3487 Feb 16 01:28:50 8843 18393 P 1.5202 0.0810 71.2N 148.0E 0  
 ----- 31 3487 Aug 11 20:13:46 8849 18399 P -1.1498 0.7335 70.7S 126.3W 0  
 ----- 18 3488 Feb 05 00:41:42 8854 18405 A 0.8645 0.9129 42.8N 164.1W 30 659 09m48s  
 ----- 06 3488 Jul 31 13:15:49 8859 18411 T -0.4279 1.0622 7.5S 16.2E 65 225 05m59s  
 ----- 38 3490 Dec 04 15:25:29 8884 18440 P 1.4599 0.1407 64.6N 13.9E 0  
 ----- 26 3491 May 30 18:25:23 8889 18446 A -0.9603 0.9414 50.2S 38.1W 16 788 05m45s  
 ----- 13 3491 Nov 24 06:14:27 8894 18452 T 0.8153 1.0129 32.2N 136.2E 35 76 01m11s  
 ----- 34 3494 Mar 29 19:00:19 8919 18481 P -1.3687 0.3152 61.3S 16.2E 0  
 ----- 33 3494 Sep 22 03:15:40 8924 18487 Pe 1.5077 0.0840 61.3N 103.3W 0  
 ----- 21 3495 Mar 19 08:06:50 8930 18493 A -0.7213 0.9901 39.9S 124.1E 44 49 00m49s  
 ----- 10 3495 Sep 11 12:16:29 8935 18499 T 0.6924 1.0258 41.4N 58.9E 46 119 01m59s  
 ----- 29 3498 Jul 12 00:39:45 8965 18534 P 1.0491 0.8967 64.2N 5.2W 0  
 ----- 17 3499 Jan 04 09:23:01 8970 18540 T -0.8363 1.0177 75.7S 118.4E 33 111 01m05s  
 ----- 04 3499 Jul 01 04:56:20 8975 18546 A 0.3058 0.9515 40.5N 149.3E 72 187 05m16s

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3405 Jul 19 00:10:40 7746 17384 178 H2 0.3259 1.0165 38.8N 141.0W 71 200 60 01m28s  
 ----- 3406 Jul 08 13:59:33 7756 17396 188 T -0.4402 1.0647 3.4S 1.1W 64 12 235 06m08s  
 ----- 3407 Jan 01 22:17:56 7760 17402 193 A 0.7368 0.9155 24.1N 130.2W 42 170 473 11m13s  
 ----- 3415 Dec 23 16:44:00 7849 17513 174 A 0.8167 0.9149 31.5N 34.1W 35 186 562 10m51s  
 ----- 3416 Jun 18 07:16:16 7853 17519 179 T -0.1383 1.0683 15.4N 105.7E 82 354 225 06m21s  
 ----- 3424 Jul 18 21:28:11 7933 17619 188 T -0.3666 1.0680 0.2S 112.7W 68 16 238 06m17s

----- 3425 Jan 12 06:15:52 7938 17625 193 A 0.7234 0.9144 23.6N 108.8E 43 165 467 11m11s  
 ----- 3434 Jan 03 00:38:28 8027 17736 174 A 0.8327 0.9134 33.9N 155.2W 33 181 599 10m52s  
 ----- 3434 Jun 29 14:51:32 8032 17742 179 T -0.2070 1.0679 11.1N 7.3W 78 358 226 06m29s  
 ----- 3442 Jul 30 04:55:23 8113 17842 188 T -0.2915 1.0707 2.2N 136.5E 73 19 240 06m19s  
 ----- 3443 Jan 23 14:17:23 8118 17848 193 A 0.7130 0.9138 24.0N 12.9W 44 161 460 10m57s  
 ----- 3452 Jan 14 08:38:03 8208 17959 174 A 0.8446 0.9126 36.5N 82.1E 32 176 625 10m42s  
 ----- 3452 Jul 09 22:21:45 8213 17965 179 T -0.2794 1.0668 5.7N 119.7W 74 2 227 06m28s  
 ----- 3453 Jun 29 12:17:41 8223 17977 189 H3 0.4923 1.0147 52.7N 30.1E 60 177 58 01m13s  
 ----- 3460 Aug 09 12:24:01 8295 18065 188 T -0.2170 1.0725 3.7N 25.7E 77 23 241 06m17s  
 ----- 3461 Feb 02 22:18:37 8300 18071 193 A 0.7020 0.9138 25.0N 134.5W 45 156 450 10m32s  
 ----- 3470 Jan 24 16:38:42 8391 18182 174 A 0.8554 0.9124 39.5N 41.2W 31 170 646 10m19s  
 ----- 3470 Jul 21 05:49:57 8396 18188 179 T -0.3529 1.0649 0.5S 127.7E 69 6 227 06m18s  
 ----- 3471 Jul 10 19:27:26 8406 18200 189 H 0.4186 1.0130 46.8N 73.1W 65 183 49 01m09s  
 ----- 3478 Aug 20 19:53:46 8478 18288 188 T -0.1431 1.0735 4.4N 85.2W 82 25 241 06m12s  
 ----- 3479 Feb 14 06:19:35 8483 18294 193 A 0.6910 0.9145 26.6N 104.1E 46 153 438 10m02s  
 ----- 3488 Feb 05 00:41:42 8576 18405 174 A 0.8645 0.9129 42.8N 165.3W 30 165 659 09m48s  
 ----- 3489 Jul 21 02:33:52 8591 18423 189 H 0.3428 1.0108 40.1N 177.3W 70 188 40 01m01s  
 ----- 3496 Aug 31 03:27:36 8664 18511 188 T -0.0724 1.0738 4.3N 163.0E 86 28 240 06m05s  
 ----- 3497 Feb 24 14:16:27 8669 18517 193 A 0.6765 0.9158 28.6N 15.9W 47 149 423 09m29s

## 36TH CENTURY CE

In the 36th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar  
 eclipses with two limits, ---- central annular solar eclipses with one limit,  
 ---- non-central annular solar eclipses with one limit), ---- total solar eclipses  
 (---- central total solar eclipses with two limits, ---- central total solar eclipses with

one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
			GREATEST								°	km	
			ECLIPSE										
----	35	3501 May 10 21:46:54	8995	18569	Pe	1.5374	0.0133	69.8N	100.3E	0			
----	25	3502 Apr 30 11:31:27	9006	18581	T	0.7698	1.0484	63.0N	22.5E	39	253	03m12s	
----	11	3502 Oct 24 12:59:22	9011	18587	A	-0.8824	0.9270	69.0S	19.3W	28	586	05m54s	
----	32	3505 Feb 27 09:31:19	9036	18616	P	1.5352	0.0559	71.8N	14.6E	0			
----	32	3505 Aug 23 03:46:55	9041	18622	P	-1.2186	0.5999	71.3S	108.1E	0			
----	19	3506 Feb 16 08:42:57	9047	18628	A	0.8749	0.9140	46.7N	71.8E	29	674	09m09s	
----	07	3506 Aug 12 20:40:32	9052	18634	T	-0.5031	1.0587	15.1S	96.9W	60	223	05m30s	
----	39	3508 Dec 16 00:01:28	9077	18663	P	1.4783	0.1069	65.6N	124.1W	0			
----	27	3509 Jun 11 01:18:38	9082	18669	P	-1.0284	0.9169	65.3S	137.7W	0			
----	14	3509 Dec 05 14:31:38	9087	18675	H	0.8419	1.0069	34.1N	10.2E	32	44	00m39s	
----	35	3512 Apr 10 03:24:55	9113	18704	P	-1.3969	0.2618	61.6S	117.8W	0			
----	22	3513 Mar 30 16:22:23	9123	18716	A	-0.7452	0.9891	37.7S	0.1E	42	56	00m56s	
----	11	3513 Sep 22 19:43:55	9128	18722	T	0.7557	1.0258	41.7N	50.2W	41	131	01m58s	
----	30	3516 Jul 23 07:36:43	9159	18757	P	1.1302	0.7507	63.4N	118.0W	0			
----	18	3517 Jan 15 18:05:40	9164	18763	T	-0.8428	1.0187	72.1S	3.8W	32	119	01m09s	
----	05	3517 Jul 12 11:32:07	9170	18769	A	0.3895	0.9508	43.9N	55.3E	67	196	05m04s	
----	26	3520 May 10 19:33:57	9200	18804	T	0.8125	1.0519	70.5N	99.7W	35	297	03m13s	
----	12	3520 Nov 03 20:11:29	9205	18810	A	-0.9325	0.9227	77.3S	151.2W	21	824	05m42s	
----	33	3523 Mar 10 17:29:59	9231	18839	Pe	1.5527	0.0265	72.2N	118.4W	0			
----	33	3523 Sep 03 11:21:40	9236	18845	P	-1.2858	0.4695	71.8S	18.3W	0			
----	20	3524 Feb 27 16:42:15	9241	18851	A	0.8870	0.9156	51.1N	52.3W	27	692	08m26s	
----	08	3524 Aug 23 04:05:48	9247	18857	T	-0.5771	1.0544	23.2S	149.2E	55	219	04m54s	
----	40	3526 Dec 27 08:42:20	9272	18886	P	1.4930	0.0801	66.6N	96.2E	0			
----	28	3527 Jun 22 08:07:09	9278	18892	P	-1.1007	0.7935	66.2S	110.9E	0			

----- 15 3527 Dec 16 22:54:31 9283 18898 H 0.8634 1.0013 36.3N 117.8W 30 9 00m07s  
 ----- 36 3530 Apr 21 11:41:23 9308 18927 P -1.4317 0.1959 61.9S 110.1E 0  
 ----- 23 3531 Apr 11 00:28:48 9319 18939 A -0.7761 0.9881 36.7S 121.5W 39 65 01m02s  
 ----- 12 3531 Oct 04 03:19:37 9324 18945 T 0.8130 1.0252 42.3N 161.9W 35 144 01m55s  
 ----- 31 3534 Aug 03 14:29:30 9355 18980 P 1.2138 0.6009 62.7N 130.5E 0  
 ----- 19 3535 Jan 27 02:51:40 9360 18986 T -0.8469 1.0203 68.0S 132.1W 32 130 01m15s  
 ----- 06 3535 Jul 23 18:02:43 9366 18992 A 0.4770 0.9496 46.5N 36.5W 61 210 04m57s  
 ----- 27 3538 May 22 03:30:38 9397 19027 T 0.8605 1.0548 78.6N 138.8E 30 359 03m11s  
 ----- 13 3538 Nov 15 03:31:09 9402 19033 As -0.9763 0.9179 79.2S 36.6E 12 - 05m29s  
 ----- 34 3541 Sep 13 19:00:20 9433 19068 P -1.3498 0.3455 72.1S 146.0W 0  
 ----- 21 3542 Mar 10 00:37:10 9438 19074 A 0.9028 0.9176 56.2N 176.4W 25 725 07m40s  
 ----- 09 3542 Sep 03 11:32:45 9444 19080 T -0.6490 1.0493 31.7S 34.2E 49 214 04m14s  
 ----- 41 3545 Jan 06 17:26:53 9469 19109 P 1.5048 0.0588 67.6N 44.8W 0  
 ----- 29 3545 Jul 02 14:52:13 9475 19115 P -1.1760 0.6638 67.3S 0.1W 0  
 ----- 16 3545 Dec 27 07:22:46 9480 19121 A 0.8797 0.9962 38.7N 112.3E 28 28 00m21s  
 ----- 37 3548 May 01 19:49:58 9506 19150 P -1.4726 0.1185 62.5S 20.1W 0  
 ----- 24 3549 Apr 21 08:28:09 9517 19162 A -0.8122 0.9870 36.8S 118.6E 35 76 01m10s  
 ----- 13 3549 Oct 14 11:01:23 9522 19168 T 0.8659 1.0241 43.9N 84.5E 30 160 01m50s  
 ----- 32 3552 Aug 13 21:22:23 9553 19203 P 1.2959 0.4548 62.1N 19.1E 0  
 ----- 20 3553 Feb 06 11:37:00 9559 19209 T -0.8520 1.0222 63.9S 97.4E 31 144 01m23s  
 ----- 07 3553 Aug 03 00:33:22 9564 19215 A 0.5639 0.9479 48.3N 127.8W 55 230 04m54s  
 ----- 28 3556 Jun 01 11:20:04 9595 19250 T 0.9150 1.0567 87.7N 3.9W 23 473 03m03s  
 ----- 14 3556 Nov 25 11:00:41 9601 19256 A- -1.0122 0.9310 68.7S 114.1W 0  
 ----- 35 3559 Sep 25 02:43:37 9632 19291 P -1.4099 0.2297 72.2S 84.9E 0  
 ----- 22 3560 Mar 20 08:27:58 9637 19297 A 0.9221 0.9200 61.9N 58.6E 22 784 06m54s  
 ----- 10 3560 Sep 13 19:02:16 9643 19303 T -0.7181 1.0437 40.5S 82.3W 44 208 03m32s  
 ----- 42 3563 Jan 18 02:14:51 9669 19332 P 1.5138 0.0427 68.7N 172.8E 0  
 ----- 30 3563 Jul 13 21:35:44 9674 19338 P -1.2524 0.5310 68.3S 111.2W 0  
 ----- 17 3564 Jan 07 15:53:54 9680 19344 A 0.8930 0.9917 41.3N 18.8W 26 65 00m46s  
 ----- 38 3566 May 13 03:50:29 9706 19373 Pe -1.5196 0.0294 63.1S 148.5W 0  
 ----- 25 3567 May 02 16:15:57 9717 19385 A -0.8570 0.9856 38.8S 1.7E 31 96 01m18s

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
											°	°		
GREATEST														
ECLIPSE														

----- 3506 Feb 16 08:42:57 8762 18628 174 A 0.8749 0.9140 46.7N 70.6E 29 160 674 09m09s

----- 3522 Oct 13 04:33:28 8937 18834 197 H 0.5532 1.0116 24.7N 155.6E 56 198 48 01m08s  
 ----- 3526 Feb 05 04:20:41 8971 18875 194 H -0.5287 1.0126 47.4S 163.7E 58 344 51 01m02s  
 ----- 3540 Oct 23 12:17:12 9127 19057 197 H 0.5018 1.0126 17.7N 37.6E 60 195 50 01m17s  
 ----- 3546 Jun 21 21:42:43 9187 19127 181 H -0.3676 1.0129 1.8N 104.2W 68 355 48 01m27s  
 ----- 3555 Jan 16 17:48:26 9279 19233 195 H 0.5141 1.0132 9.0N 55.2W 59 165 53 01m20s  
 ----- 3558 May 11 18:14:03 9315 19274 192 H -0.5477 1.0098 14.9S 49.9W 57 351 40 01m03s  
 ----- 3558 Nov 03 20:09:27 9320 19280 197 H 0.4570 1.0132 11.6N 82.0W 63 192 51 01m23s  
 ----- 3573 Jan 27 02:30:05 9473 19456 195 H 0.5091 1.0102 10.5N 174.1E 59 161 41 01m01s  
 ----- 3576 May 22 01:54:49 9509 19497 192 H -0.4982 1.0098 9.4S 166.4W 60 355 39 01m05s  
 ----- 3576 Nov 14 04:10:04 9514 19503 197 H 0.4183 1.0137 6.3N 156.8E 65 189 52 01m28s  
 ----- 3594 Jun 02 09:25:23 9706 19720 192 H -0.4408 1.0096 4.0S 80.0E 64 359 37 01m05s  
 ----- 3594 Nov 25 12:20:00 9711 19726 197 H 0.3866 1.0140 2.1N 33.9E 67 185 52 01m31s

## 37TH CENTURY CE

In the 37th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar  
 eclipses with two limits, ---- central annular solar eclipses with one limit,  
 ---- non-central annular solar eclipses with one limit), ---- total solar eclipses  
 (---- central total solar eclipses with two limits, ---- central total solar eclipses with  
 one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar  
 eclipses.

SEQ.	REL.	CALENDAR	TD	$\Delta T$	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
GREATEST													° km
ECLIPSE													

----- 27 3603 May 24 07:26:42 10122 19831 A -0.9647 0.9806 51.1S 136.0E 15 265 01m40s  
 ----- 16 3603 Nov 16 11:01:07 10128 19837 T 0.9834 1.0179 55.8N 89.0E 10 357 01m17s  
 ----- 35 3606 Sep 15 18:02:18 10160 19872 Pe 1.5347 0.0368 61.2N 45.4E 0  
 ----- 23 3607 Mar 11 13:47:16 10166 19878 T -0.8759 1.0305 53.4S 61.9E 29 210 02m00s  
 ----- 10 3607 Sep 04 20:06:06 10171 19884 A 0.8220 0.9396 52.1N 39.9W 34 384 05m11s  
 ----- 31 3610 Jul 04 10:20:54 10203 19919 P 1.1029 0.8244 64.9N 138.2W 0  
 ----- 17 3610 Dec 28 10:13:14 10209 19925 P -1.0844 0.8091 65.5S 131.8W 0  
 ----- 25 3614 Apr 22 07:18:30 10247 19966 A+ 1.0159 0.9309 71.3N 17.2W 0  
 ----- 13 3614 Oct 16 17:58:11 10252 19972 T -0.8986 1.0232 67.9S 90.6W 26 181 01m30s  
 ----- 33 3617 Aug 14 17:45:23 10285 20007 Pe -1.4842 0.1235 70.9S 87.3W 0  
 ----- 20 3618 Feb 08 17:39:17 10290 20013 A 0.9198 0.9813 50.6N 57.4W 23 170 01m35s  
 ----- 28 3621 Jun 03 14:49:36 10328 20054 P -1.0275 0.9340 64.7S 30.6E 0  
 ----- 17 3621 Nov 26 19:16:50 10334 20060 P 1.0109 0.9821 64.0N 31.2W 0  
 ----- 24 3625 Mar 21 22:22:33 10372 20101 T -0.8917 1.0336 51.3S 67.8W 27 246 02m15s  
 ----- 11 3625 Sep 15 02:44:00 10378 20107 A 0.9016 0.9356 54.3N 130.5W 25 542 05m21s  
 ----- 32 3628 Jul 14 17:54:19 10410 20142 P 1.1719 0.6911 64.1N 99.7E 0  
 ----- 18 3629 Jan 07 18:10:31 10416 20148 P -1.0987 0.7853 64.5S 100.0E 0  
 ----- 26 3632 May 02 14:41:58 10454 20189 P 1.0588 0.8600 70.5N 140.1W 0  
 ----- 14 3632 Oct 27 01:47:21 10460 20195 T -0.9487 1.0153 75.9S 124.8E 18 171 00m55s  
 ----- 21 3636 Feb 20 02:11:09 10498 20236 A 0.9304 0.9788 54.8N 169.3E 21 207 01m44s  
 ----- 29 3639 Jun 14 22:02:41 10537 20277 P -1.0975 0.8085 65.7S 86.6W 0  
 ----- 18 3639 Dec 08 03:41:46 10542 20283 P 1.0314 0.9437 64.9N 166.1W 0  
 ----- 25 3643 Apr 02 06:53:11 10581 20324 T -0.9117 1.0368 50.2S 163.8E 24 296 02m30s  
 ----- 12 3643 Sep 26 09:27:22 10586 20330 An 0.9764 0.9302 58.5N 144.6E 12 - 05m27s  
 ----- 33 3646 Jul 26 01:26:24 10619 20365 P 1.2422 0.5547 63.3N 21.8W 0  
 ----- 19 3647 Jan 19 02:11:07 10625 20371 P -1.1102 0.7662 63.6S 28.7W 0  
 ----- 27 3650 May 13 21:55:59 10664 20412 P 1.1096 0.7748 69.6N 100.0E 0  
 ----- 15 3650 Nov 07 09:44:01 10669 20418 T -0.9920 1.0060 74.8S 58.9W 6 210 00m19s  
 ----- 22 3654 Mar 02 10:41:11 10708 20459 A 0.9419 0.9767 59.3N 35.1E 19 250 01m48s  
 ----- 30 3657 Jun 25 05:10:20 10747 20500 P -1.1707 0.6774 66.7S 157.1E 0  
 ----- 19 3657 Dec 18 12:12:50 10752 20506 P 1.0475 0.9137 65.9N 57.1E 0

----- 26 3661 Apr 12 15:16:58 10791 20547 T -0.9378 1.0398 50.8S 38.0E 20 380 02m42s

----- 13 3661 Oct 06 16:17:07 10797 20553 P 1.0457 0.8806 61.3N 57.3E 0

----- 34 3664 Aug 05 08:57:22 10830 20588 P 1.3134 0.4164 62.7N 142.8W 0

----- 20 3665 Jan 29 10:14:28 10836 20594 P -1.1198 0.7505 62.8S 157.8W 0

----- 28 3668 May 24 05:04:56 10875 20635 P 1.1650 0.6810 68.6N 18.0W 0

----- 16 3668 Nov 17 17:46:43 10881 20641 P -1.0299 0.9392 69.4S 157.2E 0

----- 23 3672 Mar 12 19:05:03 10920 20682 A 0.9577 0.9747 64.6N 100.6W 16 321 01m50s

----- 31 3675 Jul 06 12:10:48 10959 20723 P -1.2486 0.5385 67.7S 42.2E 0

----- 20 3675 Dec 29 20:50:09 10965 20729 P 1.0589 0.8926 66.9N 81.7W 0

----- 27 3679 Apr 23 23:34:11 11004 20770 T -0.9697 1.0420 53.9S 84.1W 13 583 02m49s

----- 14 3679 Oct 17 23:14:54 11010 20776 P 1.1084 0.7737 61.6N 54.9W 0

----- 35 3682 Aug 16 16:28:48 11043 20811 P 1.3841 0.2790 62.1N 96.2E 0

----- 21 3683 Feb 09 18:18:02 11049 20817 P -1.1295 0.7347 62.2S 73.3E 0

----- 29 3686 Jun 04 12:06:06 11089 20858 P 1.2272 0.5745 67.6N 133.4W 0

----- 17 3686 Nov 29 01:57:01 11094 20864 P -1.0609 0.8805 68.3S 23.9E 0

----- 24 3690 Mar 24 03:23:13 11134 20905 A 0.9777 0.9726 70.2N 116.6E 11 497 01m51s

----- 32 3693 Jul 16 19:06:25 11173 20946 P -1.3292 0.3951 68.7S 72.0W 0

----- 21 3694 Jan 09 05:32:23 11179 20952 P 1.0669 0.8778 68.0N 137.8E 0

----- 28 3697 May 04 07:44:22 11219 20993 T- -1.0079 1.0007 62.6S 165.7E 0

----- 15 3697 Oct 28 06:20:34 11225 20999 P 1.1646 0.6785 62.0N 169.2W 0

----- 36 3700 Aug 28 00:02:14 11259 21034 P 1.4532 0.1451 61.8N 25.1W 0

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3601 Jul 13 10:03:36 9784 19808 191 T 0.1860 1.0720 32.3N 73.1E 79 184 238 06m07s

----- 3612 Jun 12 16:49:48 9904 19943 192 H -0.3788 1.0090 0.8N 31.4W 68 3 33 01m01s

----- 3612 Dec 05 20:38:08 9910 19949 197 H 0.3608 1.0145 1.2S 90.6W 69 181 53 01m34s

----- 3619 Jul 24 17:33:17 9983 20031 191 T 0.1125 1.0744 25.9N 38.2W 83 188 243 06m30s

----- 3620 Jan 17 23:45:11 9989 20037 196 A -0.4432 0.9169 47.0S 129.6W 63 353 353 09m07s



# 38TH CENTURY CE

[illegible]

## ECLIPSE

----	22	3701	Feb 21	02:21:52	11264	21040	P	-1.1393	0.7188	61.7S	55.5W	0
----	30	3704	Jun 15	19:03:50	11304	21081	P	1.2922	0.4620	66.5N	112.5E	0
----	18	3704	Dec 10	10:11:46	11310	21087	P	-1.0876	0.8303	67.3S	109.9W	0
----	25	3708	Apr 04	11:32:40	11350	21128	A+	1.0042	0.9715	72.2N	54.0W	0
----	33	3711	Jul 29	01:57:44	11390	21169	P	-1.4119	0.2489	69.7S	174.3E	0
----	22	3712	Jan 21	14:18:35	11396	21175	P	1.0717	0.8691	69.0N	4.3W	0
----	29	3715	May 16	15:48:06	11436	21216	P	-1.0514	0.9193	63.3S	36.5E	0
----	16	3715	Nov 09	13:34:34	11442	21222	P	1.2136	0.5955	62.6N	74.3E	0
----	37	3718	Sep 08	07:38:42	11476	21257	Pe	1.5198	0.0165	61.5N	147.1W	0
----	23	3719	Mar 04	10:21:32	11482	21263	P	-1.1528	0.6968	61.3S	176.8E	0
----	31	3722	Jun 27	01:54:49	11522	21304	P	1.3630	0.3384	65.6N	0.5E	0
----	19	3722	Dec 21	18:33:25	11528	21310	P	-1.1082	0.7918	66.2S	115.0E	0
----	26	3726	Apr 15	19:35:03	11568	21351	P	1.0359	0.9153	71.7N	172.3E	0
----	34	3729	Aug 08	08:46:50	11608	21392	Pe	-1.4950	0.1028	70.5S	60.6E	0
----	23	3730	Jan 31	23:06:06	11614	21398	P	1.0763	0.8611	70.0N	147.4W	0
----	30	3733	May 26	23:44:17	11655	21439	P	-1.1015	0.8244	64.2S	91.0W	0
----	17	3733	Nov 19	20:57:38	11661	21445	P	1.2553	0.5254	63.4N	44.7W	0
----	24	3737	Mar 14	18:18:50	11701	21486	P	-1.1685	0.6711	61.2S	49.8E	0
----	32	3740	Jul 07	08:45:11	11742	21527	P	1.4346	0.2124	64.7N	110.9W	0
----	20	3741	Jan 01	02:58:57	11748	21533	P	-1.1251	0.7602	65.2S	20.5W	0
----	27	3744	Apr 26	03:27:43	11788	21574	P	1.0746	0.8466	71.0N	41.7E	0
----	24	3748	Feb 12	07:53:57	11835	21621	P	1.0808	0.8533	70.9N	68.8E	0
----	31	3751	Jun 07	07:34:51	11876	21662	P	-1.1563	0.7198	65.1S	142.6E	0
----	18	3751	Dec 01	04:29:25	11882	21668	P	1.2898	0.4676	64.2N	166.0W	0
----	25	3755	Mar 26	02:09:40	11922	21709	P	-1.1895	0.6364	61.2S	75.5W	0
----	33	3758	Jul 18	15:31:56	11963	21750	Pe	1.5095	0.0797	63.8N	138.9E	0
----	21	3759	Jan 12	11:28:24	11969	21756	P	-1.1382	0.7358	64.2S	156.6W	0
----	28	3762	May 07	11:10:54	12010	21797	P	1.1202	0.7657	70.2N	85.9W	0
----	25	3766	Feb 22	16:40:53	12058	21844	P	1.0864	0.8436	71.6N	75.4W	0
----	32	3769	Jun 17	15:19:18	12099	21885	P	-1.2161	0.6047	66.0S	17.4E	0

----- 19 3769 Dec 11 12:09:51 12105 21891 P 1.3174 0.4215 65.2N 70.1E 0  
 ----- 26 3773 Apr 05 09:55:38 12146 21932 P -1.2147 0.5944 61.4S 160.3E 0  
 ----- 22 3777 Jan 22 19:59:09 12193 21979 P -1.1497 0.7146 63.3S 67.3E 0  
 ----- 29 3780 May 17 18:44:41 12235 22020 P 1.1727 0.6728 69.2N 149.6E 0  
 ----- 26 3784 Mar 05 01:25:57 12282 22067 P 1.0937 0.8308 72.1N 140.3E 0  
 ----- 33 3787 Jun 28 23:00:16 12324 22108 P -1.2789 0.4831 67.0S 107.3W 0  
 ----- 20 3787 Dec 22 19:56:35 12330 22114 P 1.3400 0.3837 66.2N 55.7W 0  
 ----- 27 3791 Apr 16 17:33:03 12372 22155 P -1.2472 0.5397 61.7S 38.2E 0  
 ----- 23 3795 Feb 03 04:31:17 12419 22202 P -1.1596 0.6965 62.6S 68.9W 0  
 ----- 30 3798 May 29 02:09:38 12461 22243 P 1.2317 0.5683 68.2N 27.8E 0

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3706 Nov 18 18:39:35 10977 21111 199 A 0.3094 0.9286 1.3S 55.7W 72 187 281 10m14s  
 ----- 3709 Sep 17 07:20:30 11010 21146 191 T -0.2426 1.0747 11.7S 110.7E 76 18 249 06m33s  
 ----- 3710 Mar 13 15:39:53 11016 21152 196 A -0.3778 0.9223 24.2S 0.2W 68 341 316 09m36s  
 ----- 3713 Dec 30 20:28:38 11060 21199 198 H -0.2907 1.0132 40.0S 81.9W 73 2 48 01m11s  
 ----- 3724 Jun 04 23:45:50 11183 21328 194 T -0.2093 1.0635 10.5N 129.3W 78 360 213 06m05s  
 ----- 3724 Nov 29 02:09:49 11188 21334 199 A 0.2728 0.9260 5.5S 168.2W 74 183 289 10m44s  
 ----- 3727 Sep 28 15:05:07 11222 21369 191 T -0.3045 1.0726 19.4S 6.9W 72 18 247 06m12s  
 ----- 3728 Mar 23 23:29:14 11227 21375 196 A -0.3565 0.9251 18.5S 117.9W 69 342 301 09m30s  
 ----- 3742 Jun 16 07:29:09 11396 21551 194 T -0.1477 1.0677 14.8N 115.7E 82 4 223 06m20s  
 ----- 3742 Dec 10 09:47:39 11402 21557 199 A 0.2425 0.9238 8.7S 78.0E 76 179 296 11m03s  
 ----- 3746 Apr 04 07:10:02 11441 21598 196 A -0.3277 0.9285 12.6S 126.3E 71 343 283 09m19s  
 ----- 3760 Jun 26 15:07:32 11611 21774 194 T -0.0817 1.0713 18.5N 2.6E 85 9 233 06m28s  
 ----- 3760 Dec 20 17:32:23 11617 21780 199 A 0.2178 0.9218 10.8S 37.1W 77 175 303 11m12s  
 ----- 3764 Apr 14 14:45:24 11656 21821 196 A -0.2943 0.9321 6.7S 11.7E 73 345 265 09m02s  
 ----- 3778 Jul 07 22:42:11 11828 21997 194 T -0.0123 1.0742 21.5N 109.1W 89 16 241 06m30s  
 ----- 3779 Jan 01 01:23:21 11834 22003 199 A 0.1982 0.9204 11.6S 153.6W 79 170 307 11m10s

----- 3796 Jul 18 06:14:29 12047 22220 194 Tm 0.0595 1.0765 23.8N 140.3E 86 197 248 06m27s

----- 3797 Jan 11 09:19:50 12053 22226 199 A 0.1829 0.9195 11.4S 88.7E 80 166 310 10m59s

# 39TH CENTURY CE

In the 39th century CE the total number of solar eclipses will be ---- solar eclipses:

---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
											°	km	
GREATEST													
ECLIPSE													
----- 27	3802	Mar 17	10:06:07	12509	22290	P	1.1055	0.8096	72.3N	3.0W	0		
----- 34	3805	Jul 10	06:35:31	12551	22331	P	-1.3462	0.3523	68.0S	128.9E	0		
----- 21	3806	Jan 03	03:51:05	12557	22337	P	1.3564	0.3565	67.3N	176.2E	0		
----- 28	3809	Apr 28	01:04:59	12599	22378	P	-1.2842	0.4766	62.2S	82.6W	0		
----- 24	3813	Feb 14	13:02:06	12647	22425	P	-1.1699	0.6778	62.0S	155.5E	0		
----- 31	3816	Jun 09	09:25:38	12690	22466	P	1.2968	0.4530	67.1N	91.1W	0		
----- 28	3820	Mar 27	18:42:18	12738	22513	P	1.1208	0.7816	72.2N	145.4W	0		
----- 35	3823	Jul 21	14:09:36	12780	22554	P	-1.4144	0.2196	69.0S	4.9E	0		
----- 22	3824	Jan 14	11:50:06	12787	22560	P	1.3689	0.3355	68.4N	46.4E	0		
----- 29	3827	May 09	08:28:51	12829	22601	P	-1.3282	0.4009	62.8S	158.4E	0		

----- 25 3831 Feb 25 21:30:08 12878 22648 P -1.1822 0.6558 61.6S 20.7E 0  
 ----- 32 3834 Jun 20 16:33:34 12920 22689 P 1.3675 0.3280 66.1N 152.5E 0  
 ----- 29 3838 Apr 08 03:11:57 12969 22736 P 1.1421 0.7422 71.9N 74.0E 0  
 ----- 36 3841 Jul 31 21:40:43 13012 22777 Pe -1.4848 0.0826 69.9S 118.8W 0  
 ----- 23 3842 Jan 24 19:53:24 13018 22783 P 1.3785 0.3193 69.4N 85.2W 0  
 ----- 30 3845 May 19 15:45:54 13061 22824 P -1.3779 0.3146 63.6S 40.9E 0  
 ----- 26 3849 Mar 08 05:54:27 13110 22871 P -1.1969 0.6297 61.3S 113.0W 0  
 ----- 33 3852 Jun 30 23:34:40 13153 22912 P 1.4427 0.1955 65.2N 38.2E 0  
 ----- 30 3856 Apr 18 11:36:14 13202 22959 P 1.1680 0.6939 71.4N 64.8W 0  
 ----- 24 3860 Feb 05 03:57:58 13251 23006 P 1.3874 0.3043 70.4N 142.4E 0  
 ----- 31 3863 May 30 22:55:59 13295 23047 P -1.4333 0.2176 64.5S 75.1W 0  
 ----- 27 3867 Mar 19 14:13:48 13344 23094 P -1.2152 0.5973 61.2S 114.5E 0  
 ----- 34 3870 Jul 12 06:29:59 13387 23135 Pe 1.5216 0.0569 64.3N 74.3W 0  
 ----- 31 3874 Apr 29 19:52:15 13437 23182 P 1.2010 0.6318 70.7N 159.0E 0  
 ----- 25 3878 Feb 15 12:04:05 13487 23229 P 1.3952 0.2908 71.2N 8.9E 0  
 ----- 32 3881 Jun 10 06:01:02 13531 23270 Pe -1.4930 0.1120 65.4S 169.8E 0  
 ----- 28 3885 Mar 29 22:25:48 13581 23317 P -1.2389 0.5556 61.3S 16.1W 0  
 ----- 32 3892 May 10 04:02:47 13674 23405 P 1.2389 0.5598 69.8N 24.9E 0  
 ----- 26 3896 Feb 26 20:09:05 13725 23452 P 1.4043 0.2751 71.8N 125.0W 0

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 3814 Jul 30 13:45:51 12268 22443 194 T 0.1325 1.0779 25.2N 30.3E 82 201 254 06m21s  
 ----- 3815 Jan 23 17:18:36 12274 22449 199 A 0.1692 0.9192 10.2S 29.7W 80 162 310 10m40s  
 ----- 3832 Aug 09 21:15:48 12491 22666 194 T 0.2069 1.0786 26.0N 79.3W 78 205 259 06m13s  
 ----- 3833 Feb 03 01:20:50 12497 22672 199 A 0.1581 0.9194 8.2S 149.1W 81 158 309 10m17s  
 ----- 3850 Aug 21 04:47:50 12716 22889 194 T 0.2798 1.0783 26.2N 170.6E 74 208 263 06m04s  
 ----- 3851 Feb 14 09:22:25 12722 22895 199 A 0.1460 0.9204 5.5S 91.5E 82 155 304 09m51s  
 ----- 3869 Feb 24 17:24:10 12950 23118 199 A 0.1340 0.9219 2.4S 28.1W 82 153 297 09m23s

# 40TH CENTURY CE

In the 40th century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.
GREATEST											°	km	
ECLIPSE													
----- 29	3903	Apr 11	06:30:16	13819	23540	P	-1.2680	0.5044	61.5S	144.8W	0		
----- 33	3910	May 22	12:05:28	13914	23628	P	1.2837	0.4740	68.9N	106.6W	0		
----- 27	3914	Mar 10	04:11:17	13964	23675	P	1.4157	0.2551	72.2N	101.4E	0		
----- 30	3921	Apr 21	14:26:09	14060	23763	P	-1.3034	0.4421	61.9S	88.5E	0		
----- 34	3928	Jun 01	20:02:12	14155	23851	P	1.3335	0.3780	67.9N	123.9E	0		
----- 28	3932	Mar 20	12:09:50	14206	23898	P	1.4305	0.2292	72.3N	31.5W	0		
----- 31	3939	May 02	22:13:52	14302	23986	P	-1.3449	0.3692	62.4S	36.3W	0		
----- 35	3946	Jun 13	03:51:58	14398	24074	P	1.3893	0.2700	66.9N	3.3W	0		
----- 29	3950	Mar 31	20:03:09	14450	24121	P	1.4499	0.1951	72.2N	163.1W	0		
----- 32	3957	May 13	05:50:35	14547	24209	P	-1.3943	0.2824	63.1S	158.5W	0		
----- 36	3964	Jun 23	11:36:53	14644	24297	P	1.4490	0.1540	65.9N	128.8W	0		

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
GREATEST										°	°			
ECLIPSE														

# 5TH MILLENNIUM CE

In the 5th millennium CE the total number of solar eclipses will be 2 360 solar eclipses: 828 partial solar eclipses, 821 annular solar eclipses (795 central annular solar eclipses with two limits, 15 central annular solar eclipses with one limit, 11 non-central annular solar eclipses with one limit), 653 total solar eclipses (647 central total solar eclipses with two limits, 4 central total solar eclipses with one limit, 2 non-central total solar eclipses with one limit), 58 hybrid solar eclipses.

# 41ST CENTURY CE

In the 41st century CE the total number of solar eclipses will be ---- solar eclipses: ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

SEQ.	REL.	CALENDAR	TD	ΔT	LUNA	ECL.	GAMMA	ECL.	LAT	LONG	SUN	PATH	CENTRAL	
NUM.	NUM.	DATE	OF	s	NUM.	TYPE		MAG.	°	°	ALT	WIDTH	DUR.	
GREATEST											°	km		
ECLIPSE														
----- 32 4004 May 02 19:04:50 15194 24790 Pe 1.5404 0.0350 70.4N 174.2E 0														
CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
GREATEST											°	°		



## ECLIPSE

----- 4009 Aug 04 10:00:56 14788 24855 197 T -0.3853 1.0785 5.9S 89.8E 67 11 274 07m12s  
----- 4009 Feb 08 11:53:05 14781 24849 192 A 0.7908 0.9213 36.5N 53.8E 37 165 483 09m08s  
----- 4010 Jan 28 10:58:33 14794 24861 202 A 0.1134 0.9217 11.7S 78.2E 84 171 298 10m56s  
----- 4027 Aug 15 17:32:59 15033 25078 197 T -0.4580 1.0781 13.4S 24.8W 63 14 283 06m58s  
----- 4028 Feb 08 19:01:23 15039 25084 202 A 0.1246 0.9224 8.0S 41.7W 83 168 295 10m42s  
----- 4031 Nov 28 02:35:29 15091 25131 204 H 0.1148 1.0145 14.8S 157.6W 83 195 50 01m28s  
----- 4045 Aug 26 01:04:41 15279 25301 197 T -0.5309 1.0767 21.4S 139.9W 58 16 292 06m34s  
----- 4046 Feb 19 03:05:36 15286 25307 202 A 0.1349 0.9238 3.7S 162.1W 82 166 290 10m21s  
----- 4063 Sep 06 08:39:33 15528 25524 197 T -0.6010 1.0747 29.7S 103.7E 53 19 301 06m05s  
----- 4064 Mar 01 11:07:22 15535 25530 202 A 0.1474 0.9258 1.0N 77.7E 82 164 282 09m53s  
----- 4068 Jun 13 10:42:43 15594 25583 209 H 0.4327 1.0131 48.6N 80.3E 64 169 50 01m07s  
----- 4082 Mar 12 19:06:43 15786 25753 202 A 0.1623 0.9283 6.1N 42.0W 81 163 272 09m21s

## 42ND CENTURY CE

In the 42nd century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.

• •

GREATEST

GREATEST

GREATEST

GREATEST

GREATEST

GREATEST

----- 4291 Dec 04 23:17:58 18852 28347 208 A 0.5448 0.9295 10.3N 86.7W 57 192 313 09m36s  
----- 4300 Dec 25 12:09:35 18990 28459 227 A 0.9615 0.9136 50.9N 65.1E 15 170 1229 09m05s

# 44TH CENTURY CE

In the 44th century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST										°	°	
		ECLIPSE												

----- 4303 May 01 09:56:24 19026 28488 214 A -0.3308 0.9332 4.1S 113.7E 71 348 264 09m10s  
----- 4303 Oct 25 04:02:48 19034 28494 219 T 0.2725 1.0688 3.5N 161.1W 74 194 233 06m17s  
----- 4309 Jun 22 12:32:20 19120 28564 203 T -0.5386 1.0712 9.4S 75.9E 57 356 275 06m40s  
----- 4309 Dec 16 06:55:45 19128 28570 208 A 0.5770 0.9279 12.0N 158.8E 55 188 331 10m00s  
----- 4318 Jul 12 19:57:48 19260 28676 222 T -0.7031 1.0701 22.1S 47.4W 45 15 319 06m07s  
----- 4319 Jan 05 19:58:21 19267 28682 227 A 0.9386 0.9132 46.4N 55.0W 20 164 965 09m26s  
----- 4321 May 11 17:20:15 19304 28711 214 A -0.2873 0.9350 1.5N 2.6E 73 351 252 09m06s  
----- 4321 Nov 04 12:02:09 19311 28717 219 T 0.2227 1.0659 2.8S 78.6E 77 191 221 06m07s  
----- 4327 Jul 03 20:15:00 19399 28787 203 T -0.6026 1.0725 14.6S 40.4W 53 360 295 06m42s  
----- 4327 Dec 27 14:42:11 19406 28793 208 A 0.6027 0.9266 14.0N 41.9E 53 184 346 10m12s

----- 4336 Jul 23 03:33:03 19539 28899 222 T -0.6329 1.0733 18.1S 161.0W 51 18 305 06m21s  
 ----- 4337 Jan 16 03:52:39 19547 28905 227 A 0.9197 0.9131 43.8N 176.1W 23 159 839 09m30s  
 ----- 4345 Jul 14 03:54:50 19679 29010 203 T -0.6692 1.0731 20.9S 156.7W 48 4 319 06m33s  
 ----- 4346 Jan 06 22:33:54 19686 29016 208 A 0.6244 0.9258 16.5N 76.6W 51 179 358 10m13s  
 ----- 4349 Oct 26 10:12:49 19746 29063 210 H3 0.4505 1.0159 11.8N 116.7E 63 205 60 01m32s  
 ----- 4354 Aug 03 11:05:56 19820 29122 222 T -0.5605 1.0759 15.1S 86.6E 56 22 293 06m28s  
 ----- 4355 Jan 27 11:52:01 19828 29128 227 A 0.9048 0.9133 42.6N 61.8E 25 154 764 09m21s  
 ----- 4363 Jul 25 11:29:11 19961 29233 203 T -0.7401 1.0727 28.5S 87.3E 42 8 351 06m13s  
 ----- 4364 Jan 18 06:33:10 19969 29239 208 A 0.6399 0.9256 19.2N 162.8E 50 175 364 10m01s  
 ----- 4372 Aug 13 18:38:46 20104 29345 222 T -0.4878 1.0774 13.1S 25.4W 61 24 284 06m28s  
 ----- 4373 Feb 06 19:53:01 20111 29351 227 A 0.8907 0.9140 42.3N 60.4W 27 149 703 09m02s  
 ----- 4382 Jan 28 14:36:09 20253 29462 208 A 0.6526 0.9258 22.4N 41.0E 49 171 367 09m39s  
 ----- 4386 May 12 18:51:46 20321 29515 215 H 0.1248 1.0120 25.1N 21.4W 83 159 42 01m08s  
 ----- 4390 Aug 25 02:09:59 20389 29568 222 T -0.4135 1.0782 11.9S 136.7W 66 27 275 06m25s  
 ----- 4400 Feb 08 22:42:46 20539 29685 208 A 0.6627 0.9268 25.9N 81.7W 48 167 365 09m07s

## 45TH CENTURY CE

In the 45th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 4408 Sep 04 09:43:57 20676 29791 222 T -0.3414 1.0781 11.6S 111.5E 70 28 267 06m18s

----- 4426 Sep 15 17:19:00 20965 30014 222 T -0.2700 1.0772 11.7S 0.3W 74 29 258 06m11s

----- 4444 Sep 26 00:58:58 21257 30237 222 T -0.2028 1.0756 12.4S 113.3W 78 29 250 06m02s

----- 4495 Jan 10 06:32:26 22079 30859 220 A 0.0195 0.9307 20.7S 174.6E 89 177 260 09m13s

## 46TH CENTURY CE

In the 46th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 4513 Jan 21 14:31:37 22378 31082 220 A 0.0361 0.9279 17.7S 56.7E 88 173 271 09m43s

----- 4531 Feb 01 22:35:06 22679 31305 220 A 0.0492 0.9257 14.2S 62.6W 87 170 280 10m04s

----- 4531 Jul 28 23:50:53 22687 31311 225 T 0.3772 1.0777 40.1N 75.6W 68 191 271 06m04s

----- 4545 Apr 25 22:25:51 22918 31481 218 H 0.0558 1.0106 16.8N 62.1W 87 167 37 01m05s

----- 4549 Feb 12 06:38:16 22982 31528 220 A 0.0620 0.9241 10.2S 177.7E 87 167 287 10m17s  
----- 4549 Aug 08 07:25:11 22990 31534 225 T 0.3055 1.0790 32.7N 171.7E 72 194 268 06m25s  
----- 4563 May 07 06:30:10 23222 31704 218 Hm 0.0897 1.0163 22.1N 177.8E 85 170 56 01m38s  
----- 4567 Feb 23 14:43:00 23287 31751 220 A 0.0732 0.9232 5.7S 57.4E 86 165 291 10m22s  
----- 4567 Aug 19 14:57:30 23295 31757 225 T 0.2324 1.0795 24.9N 58.6E 76 195 264 06m41s  
----- 4585 Mar 05 22:45:04 23594 31974 220 A 0.0860 0.9227 0.9S 62.5W 85 163 293 10m21s  
----- 4585 Aug 29 22:30:10 23602 31980 225 T 0.1596 1.0792 16.9N 55.2W 81 196 259 06m51s

# 47TH CENTURY CE

In the 47th century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 4603 Mar 18 06:44:25 23903 32197 220 A 0.1007 0.9229 4.3N 178.1E 84 163 292 10m15s  
----- 4603 Sep 11 06:03:40 23911 32203 225 T 0.0877 1.0781 8.9N 169.4W 85 197 253 06m52s  
----- 4618 May 29 21:34:17 24165 32385 228 T -0.4990 1.0633 8.4S 41.1W 60 357 239 06m01s  
----- 4618 Nov 22 17:18:59 24173 32391 233 A 0.5381 0.9322 12.5N 20.7E 57 186 300 09m27s  
----- 4621 Mar 28 14:38:27 24214 32420 220 A 0.1195 0.9236 9.7N 59.9E 83 163 290 10m04s

----- 4621 Sep 21 13:40:01 24222 32426 225 Tm 0.0184 1.0762 0.9N 75.5E 89 197 247 06m46s  
----- 4636 Jun 09 05:33:16 24477 32608 228 T -0.4487 1.0671 3.9S 161.0W 63 1 245 06m24s  
----- 4636 Dec 03 00:41:43 24486 32614 233 A 0.4927 0.9308 7.7N 90.4W 60 182 297 09m52s  
----- 4639 Apr 08 22:27:27 24526 32643 220 A 0.1426 0.9248 15.3N 56.9W 82 164 286 09m48s  
----- 4639 Oct 02 21:19:43 24535 32649 225 T -0.0481 1.0737 6.9S 40.3W 87 17 239 06m33s  
----- 4654 Jun 20 13:26:19 24792 32831 228 T -0.3932 1.0706 0.1N 81.2E 67 6 250 06m40s  
----- 4654 Dec 14 08:13:31 24800 32837 233 A 0.4543 0.9296 4.2N 156.8E 63 178 296 10m06s  
----- 4657 Apr 19 06:09:05 24841 32866 220 A 0.1714 0.9264 21.0N 171.7W 80 165 281 09m27s  
----- 4657 Oct 13 05:03:25 24850 32872 225 T -0.1109 1.0705 14.4S 156.9W 84 16 231 06m14s  
----- 4672 Jun 30 21:13:36 25108 33054 228 T -0.3325 1.0736 3.5N 34.8W 71 10 253 06m50s  
----- 4672 Dec 24 15:54:13 25117 33060 233 A 0.4224 0.9286 1.8N 42.1E 65 173 295 10m09s  
----- 4675 Apr 30 13:43:06 25158 33089 220 A 0.2065 0.9283 26.7N 75.8E 78 167 275 09m00s  
----- 4690 Jul 12 04:56:23 25427 33277 228 T -0.2676 1.0761 6.3N 149.1W 75 14 255 06m53s  
----- 4691 Jan 04 23:41:53 25436 33283 233 A 0.3960 0.9279 0.5N 74.0W 67 169 294 10m01s

# 48TH CENTURY CE

In the 48th century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.

GREATEST

ECLIPSE

° °

----- 4708 Jul 23 12:34:37 25748 33500 228 T -0.1989 1.0779 8.4N 98.2E 79 18 256 06m50s  
----- 4709 Jan 16 07:36:35 25756 33506 233 A 0.3748 0.9275 0.4N 168.3E 68 165 292 09m45s  
----- 4712 Nov 04 19:01:26 25824 33553 235 H3 0.4688 1.0150 12.0N 3.9E 62 191 58 01m35s  
----- 4722 Apr 21 09:54:58 25993 33670 221 H -0.2827 1.0143 3.1S 146.3E 74 335 51 01m22s  
----- 4726 Aug 03 20:10:07 26070 33723 228 T -0.1278 1.0789 9.8N 13.5W 83 21 257 06m44s  
----- 4727 Jan 27 15:36:28 26079 33729 233 A 0.3573 0.9277 1.3N 49.4E 69 161 289 09m22s  
----- 4730 Nov 16 02:46:43 26147 33776 235 H 0.4215 1.0096 6.3N 113.0W 65 188 36 01m03s  
----- 4744 Aug 14 03:43:33 26395 33946 228 T -0.0549 1.0792 10.6N 124.6W 87 25 256 06m35s  
----- 4762 Aug 25 11:16:56 26722 34169 228 Tm 0.0183 1.0786 10.8N 124.5E 89 205 254 06m25s  
----- 4780 Mar 11 16:33:51 27041 34386 223 A -0.3684 0.9195 22.4S 56.7E 68 329 325 09m00s  
----- 4780 Sep 04 18:49:06 27050 34392 228 T 0.0923 1.0774 10.7N 13.9E 85 208 251 06m15s  
----- 4798 Sep 16 02:23:53 27381 34615 228 T 0.1639 1.0753 10.2N 97.4W 81 209 247 06m04s  
----- 4798 Mar 23 00:30:45 27372 34609 223 A -0.3859 0.9201 19.0S 61.3W 67 329 324 09m05s

## 49TH CENTURY CE

In the 49th century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.



CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 4812 Dec 08 11:23:56 27643 34791 226 A 0.4707 0.9334 5.2N 126.9E 62 190 281 09m11s  
 ----- 4816 Apr 02 08:23:41 27705 34832 223 A -0.4064 0.9212 16.0S 178.6W 66 331 322 09m10s  
 ----- 4830 Dec 19 18:59:06 27977 35014 226 A 0.5074 0.9295 7.3N 13.7E 59 186 306 09m57s  
 ----- 4834 Apr 13 16:09:51 28039 35055 223 A -0.4322 0.9227 13.6S 65.9E 64 333 319 09m15s  
 ----- 4848 Dec 30 02:40:42 28314 35237 226 A 0.5383 0.9259 9.8N 101.5W 57 182 331 10m34s  
 ----- 4849 Jun 25 09:48:12 28323 35243 231 T 0.1366 1.0728 30.9N 152.8E 82 177 239 06m11s  
 ----- 4852 Apr 23 23:50:17 28376 35278 223 A -0.4626 0.9246 12.0S 48.3W 62 335 316 09m18s  
 ----- 4867 Jan 10 10:28:04 28652 35460 226 A 0.5639 0.9228 12.8N 141.6E 56 178 353 10m58s  
 ----- 4867 Jul 06 17:35:37 28661 35466 231 T 0.0757 1.0749 26.5N 38.6E 86 182 244 06m32s  
 ----- 4870 May 05 07:21:26 28714 35501 223 A -0.5007 0.9267 11.6S 160.1W 60 338 314 09m20s  
 ----- 4881 Apr 03 13:02:02 28920 35636 224 H 0.4894 1.0123 33.8N 95.5E 60 160 48 01m06s  
 ----- 4885 Jan 20 18:21:06 28992 35683 226 A 0.5845 0.9202 16.0N 23.0E 54 174 372 11m08s  
 ----- 4885 Jul 17 01:16:33 29001 35689 231 Tm 0.0096 1.0764 21.0N 75.0W 89 185 247 06m49s  
 ----- 4888 May 15 14:46:07 29055 35724 223 A -0.5439 0.9290 12.2S 89.6E 57 342 313 09m18s  
 ----- 4889 Oct 29 06:53:16 29083 35742 238 H -0.2628 1.0121 27.9S 172.8W 75 27 43 01m06s

# 50TH CENTURY CE

In the 50th century CE the total number of solar eclipses will be ----- solar eclipses:  
 ----- partial solar eclipses, ----- annular solar eclipses (----- central annular solar  
 eclipses with two limits, ----- central annular solar eclipses with one limit,  
 ----- non-central annular solar eclipses with one limit), ----- total solar eclipses  
 (----- central total solar eclipses with two limits, ----- central total solar eclipses with

one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST										°	°	
		ECLIPSE												
----	4903 Feb 02 02:18:24	29334	35906	226	A	0.6010	0.9181	19.6N	96.8W	53	170	387	11m05s	
----	4903 Jul 29 08:55:01	29344	35912	231	T	-0.0588	1.0772	14.7N	171.3E	87	9	250	07m00s	
----	4906 May 27 22:01:50	29398	35947	223	A	-0.5941	0.9313	14.2S	18.6W	53	346	316	09m11s	
----	4921 Feb 12 10:18:29	29679	36129	226	A	0.6152	0.9168	23.6N	142.5E	52	166	398	10m51s	
----	4921 Aug 08 16:28:39	29688	36135	231	T	-0.1310	1.0772	7.7N	58.0E	83	12	252	07m03s	
----	4939 Feb 23 18:19:21	30025	36352	226	A	0.6287	0.9159	28.0N	21.6E	51	163	407	10m29s	
----	4939 Aug 20 00:02:31	30034	36358	231	T	-0.2030	1.0766	0.2N	55.9W	78	14	253	06m58s	
----	4957 Mar 06 02:20:41	30373	36575	226	A	0.6415	0.9158	32.7N	99.5W	50	160	413	10m01s	
----	4957 Aug 30 07:34:10	30383	36581	231	T	-0.2763	1.0750	7.7S	169.8W	74	16	252	06m44s	
----	4975 Mar 17 10:20:20	30724	36798	226	A	0.6555	0.9161	37.7N	139.9E	49	158	418	09m29s	
----	4975 Sep 10 15:06:38	30733	36804	231	T	-0.3490	1.0728	15.8S	75.8E	69	18	252	06m23s	

# 6TH MILLENNIUM CE

In the 6th millennium CE the total number of solar eclipses will be 2 368 solar eclipses: 839 partial solar eclipses, 754 annular solar eclipses (728 central annular solar eclipses with two limits, 12 central annular solar eclipses with one limit,

14 non-central annular solar eclipses with one limit), 595 total solar eclipses (589 central total solar eclipses with two limits, 4 central total solar eclipses with one limit, 2 non-central total solar eclipses with one limit), 180 hybrid solar eclipses.

# 51ST CENTURY CE

In the 51st century CE the total number of solar eclipses will be ---- solar eclipses: ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												
-----	5008 Jun 09 14:22:16	31375	37209	234	Tm	0.0015	1.0682	23.0N	96.3E	90	181	222	06m06s	
-----	5026 Jun 20 22:20:02	31730	37432	234	T	0.0541	1.0703	26.3N	20.4W	87	186	229	06m08s	
-----	5044 Jul 01 06:11:14	32089	37655	234	T	0.1122	1.0722	29.0N	135.0W	83	191	236	06m06s	
-----	5048 Oct 13 11:22:20	32174	37708	241	Hm	0.1252	1.0136	1.6S	142.8E	83	196	47	01m27s	
-----	5062 Jul 12 13:57:02	32448	37878	234	T	0.1749	1.0733	31.1N	112.2E	80	196	242	06m00s	
-----	5069 Feb 27 05:29:16	32581	37960	228	H3	0.7228	1.0123	36.3N	138.9W	43	160	61	01m05s	
-----	5085 Apr 29 18:53:52	32907	38160	246	H	-0.6261	1.0115	23.3S	41.4E	51	347	50	01m08s	

# 52ND CENTURY CE

In the 52nd century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
			GREATEST								°	°		
			ECLIPSE											
-----	5143 Mar 22 01:44:32	34084	38876	248	A	-0.6240	0.9179	36.6S	49.9W	51	338	395	09m19s	
-----	5161 Apr 01 09:40:36	34455	39099	248	A	-0.6070	0.9189	31.3S	169.4W	52	340	383	09m40s	
-----	5175 Dec 18 20:30:12	34760	39281	251	A	0.5188	0.9326	8.2N	13.4E	59	176	295	09m29s	
-----	5179 Apr 12 17:31:14	34828	39322	248	A	-0.5856	0.9204	25.9S	72.3E	54	343	368	09m58s	
-----	5193 Dec 29 04:08:02	35134	39504	251	A	0.4850	0.9293	5.9N	100.5W	61	172	302	09m55s	
-----	5197 Apr 23 01:16:35	35203	39545	248	A	-0.5597	0.9224	20.6S	44.8W	56	346	351	10m11s	

# 53RD CENTURY CE

In the 53rd century CE the total number of solar eclipses will be ---- solar eclipses:

---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
GREATEST												°	°	
ECLIPSE														
-----	5203	Jun 15 10:45:59	35332	39621	237	T	-0.2586	1.0665	8.2N	169.3E	75 353	225	06m15s	
-----	5207	Sep 27 16:04:42	35421	39674	244	H	0.0041	1.0138	2.4S	85.5E	90 211	47	01m19s	
----	5212	Jan 09 11:51:42	35511	39727	251	A	0.4563	0.9263	4.7N	144.4E	63 168	310	10m11s	
-----	5215	May 04 08:53:55	35580	39768	248	A	-0.5273	0.9248	15.4S	159.7W	58 349	332	10m17s	
-----	5221	Jun 25 18:42:25	35709	39844	237	T	-0.3123	1.0679	4.7N	51.5E	72 357	233	06m28s	
-----	5230	Jan 19 19:41:12	35890	39950	251	A	0.4324	0.9237	4.6N	28.0E	64 163	317	10m16s	
-----	5233	May 14 16:24:20	35959	39991	248	A	-0.4888	0.9276	10.2S	87.3E	61 353	311	10m14s	
-----	5239	Jul 07 02:31:32	36089	40067	237	T	-0.3721	1.0688	0.1N	65.0W	68 2 242	06m35s		
-----	5244	Apr 12 22:04:32	36190	40126	249	H	0.4151	1.0130	31.0N	13.2W	65 149	49	01m06s	
-----	5248	Jan 31 03:35:48	36270	40173	251	A	0.4128	0.9216	5.6N	89.6W	66 160	323	10m13s	
-----	5251	May 25 23:46:15	36340	40214	248	A	-0.4432	0.9306	5.3S	23.2W	64 356	290	10m00s	
-----	5257	Jul 17 10:16:11	36471	40290	237	T	-0.4354	1.0691	5.6S	178.9E	64 5	250	06m34s	
-----	5266	Feb 10 11:34:48	36653	40396	251	A	0.3965	0.9200	7.4N	151.7E	67 156	327	10m05s	
-----	5269	Jun 05 07:01:41	36723	40437	248	A	-0.3919	0.9337	0.6S	131.6W	67 0	269	09m35s	
-----	5275	Jul 28 17:55:04	36854	40513	237	T	-0.5032	1.0687	12.2S	63.6E	60 9	259	06m23s	
-----	5284	Feb 21 19:35:17	37038	40619	251	A	0.3816	0.9189	9.9N	32.5E	68 154	329	09m53s	
-----	5293	Aug 08 01:31:16	37240	40736	237	T	-0.5732	1.0676	19.6S	51.8W	55 12	268	06m04s	

# 54TH CENTURY CE

In the 54th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
GREATEST											°	°		
ECLIPSE														

----- 5302 Mar 05 03:37:05 37424 40842 251 A 0.3679 0.9185 12.9N 86.9W 68 152 329 09m39s

----- 5320 Mar 15 11:37:39 37813 41065 251 A 0.3532 0.9186 16.2N 154.1E 69 150 327 09m24s

----- 5338 Mar 26 19:36:55 38204 41288 251 A 0.3374 0.9193 19.7N 35.6E 70 150 322 09m09s

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----- 5348 Aug 30 13:50:22 38431 41417 247 H3 -0.0486 1.0162 4.8N 133.5E 87 16 56 01m43s
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----- 5366 Sep 10 20:59:49 38824 41640 247 H -0.1257 1.0125 3.4S 25.4E 83 17 43 01m20s

----- 5385 Mar 16 16:24:57 39231 41869 252 H -0.2032 1.0111 12.6S 101.8E 78 342 39 01m06s

# 55TH CENTURY CE

**In the 55th century CE the total number of solar eclipses will be ---- solar eclipses:**

---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
GREATEST											°	°		
ECLIPSE														
----- 5403	Mar 29 01:01:41	39629	42092	252	H	-0.1919	1.0147	7.6S	26.6W	79 343	51 01m28s			
----- 5407	Jan 15 05:47:57	39713	42139	254	A	-0.1642	0.9248	30.5S	99.9W	80 356	288 09m31s			
----- 5425	Jan 25 13:36:45	40113	42362	254	A	-0.1400	0.9225	26.8S	145.7E	82 352	296 10m01s			
----- 5442	Aug 12 13:19:06	40505	42579	249	T	-0.1202	1.0663	7.0N	150.6E	83 13	218 06m12s			
----- 5443	Feb 05 21:31:27	40516	42585	254	A	-0.1210	0.9207	22.7S	29.4E	83 349	302 10m24s			
----- 5450	Mar 19 23:19:04	40675	42673	253	H3	0.1682	1.0167	8.2N	4.1W	80 151	58 01m30s			
----- 5460	Aug 22 20:51:09	40909	42802	249	T	-0.1914	1.0688	0.5S	37.3E	79 15	228 06m21s			
----- 5461	Feb 16 05:29:30	40920	42808	254	A	-0.1052	0.9195	18.2S	88.4W	84 346	307 10m40s			
----- 5468	Mar 30 07:56:34	41080	42896	253	H	0.1564	1.0153	12.0N	132.0W	81 151	53 01m22s			
----- 5471	Jul 24 04:13:56	41155	42937	250	H3	0.0197	1.0169	20.1N	67.9W	89 197	58 01m40s			
----- 5478	Sep 03 04:21:28	41316	43025	249	T	-0.2643	1.0704	8.4S	76.0W	75 17	237 06m22s			
----- 5479	Feb 27 13:29:59	41327	43031	254	A	-0.0911	0.9189	13.4S	152.9E	85 344	309 10m49s			
----- 5486	Apr 10 16:30:20	41488	43119	253	H	0.1420	1.0142	15.5N	101.3E	82 152	49 01m17s			
----- 5489	Aug 03 11:32:16	41563	43160	250	H	0.0914	1.0150	21.1N	174.2W	85 202	52 01m26s			
----- 5496	Sep 13 11:53:45	41724	43248	249	T	-0.3361	1.0714	16.5S	169.9E	70 18	246 06m15s			
----- 5497	Mar 09 21:30:24	41735	43254	254	A	-0.0769	0.9188	8.4S	33.9E	86 343	309 10m53s			

## 56TH CENTURY CE

----- 5504 Apr 22 00:59:08 41897 43342 253 H 0.1238 1.0135 18.6N 23.9W 83 154 47 01m14s

----- 5504 Oct 15 05:45:04 41908 43348 258 H -0.1695 1.0114 17.8S 98.7W 80 28 40 01m04s

----- 5507 Aug 15 18:46:16 41972 43383 250 H 0.1662 1.0125 21.7N 80.7E 80 206 44 01m11s

----- 5508 Feb 08 01:52:51 41983 43389 255 H -0.0072 1.0107 15.8S 31.2W 89 341 37 01m01s

----- 5514 Sep 25 19:26:25 42134 43471 249 T -0.4079 1.0715 24.9S 55.6E 66 19 254 06m01s

----- 5515 Mar 22 05:30:43 42146 43477 254 A -0.0626 0.9194 3.2S 85.2W 86 343 306 10m51s

----- 5515 Sep 15 12:37:12 42157 43483 259 T 0.3295 1.0706 20.6N 172.8E 71 198 243 06m05s

----- 5522 May 03 09:21:08 42308 43565 253 H 0.1005 1.0130 21.0N 146.9W 84 157 45 01m13s

----- 5522 Oct 26 13:07:48 42319 43571 258 H -0.1012 1.0129 18.1S 153.6E 84 25 45 01m13s

----- 5526 Feb 18 10:29:44 42395 43612 255 H -0.0188 1.0123 12.8S 158.3W 89 336 42 01m09s

----- 5533 Apr 01 13:28:44 42558 43700 254 A -0.0463 0.9204 2.0N 156.2E 87 343 302 10m45s

----- 5533 Sep 25 20:09:43 42569 43706 259 T 0.2582 1.0686 12.4N 58.8E 75 198 231 06m07s

----- 5540 May 13 17:35:56 42721 43788 253 H 0.0718 1.0127 22.5N 92.2E 86 161 44 01m13s

----- 5540 Nov 05 20:38:10 42732 43794 258 H -0.0386 1.0140 18.2S 44.1E 88 22 48 01m21s

----- 5544 Feb 29 19:09:24 42809 43835 255 H -0.0287 1.0143 9.3S 73.5E 88 333 49 01m19s

----- 5504 Apr 22 00:59:08 41897 43342 253 H 0.1238 1.0135 18.6N 23.9W 83 154 47 01m14s

----- 5504 Oct 15 05:45:04 41908 43348 258 H -0.1695 1.0114 17.8S 98.7W 80 28 40 01m04s

----- 5507 Aug 15 18:46:16 41972 43383 250 H 0.1662 1.0125 21.7N 80.7E 80 206 44 01m11s

----- 5508 Feb 08 01:52:51 41983 43389 255 H -0.0072 1.0107 15.8S 31.2W 89 341 37 01m01s

----- 5514 Sep 25 19:26:25 42134 43471 249 T -0.4079 1.0715 24.9S 55.6E 66 19 254 06m01s

----- 5515 Mar 22 05:30:43 42146 43477 254 A -0.0626 0.9194 3.2S 85.2W 86 343 306 10m51s

----- 5515 Sep 15 12:37:12 42157 43483 259 T 0.3295 1.0706 20.6N 172.8E 71 198 243 06m05s

----- 5522 May 03 09:21:08 42308 43565 253 H 0.1005 1.0130 21.0N 146.9W 84 157 45 01m13s

----- 5522 Oct 26 13:07:48 42319 43571 258 H -0.1012 1.0129 18.1S 153.6E 84 25 45 01m13s

----- 5526 Feb 18 10:29:44 42395 43612 255 H -0.0188 1.0123 12.8S 158.3W 89 336 42 01m09s

----- 5533 Apr 01 13:28:44 42558 43700 254 A -0.0463 0.9204 2.0N 156.2E 87 343 302 10m45s

----- 5533 Sep 25 20:09:43 42569 43706 259 T 0.2582 1.0686 12.4N 58.8E 75 198 231 06m07s

----- 5540 May 13 17:35:56 42721 43788 253 H 0.0718 1.0127 22.5N 92.2E 86 161 44 01m13s

----- 5540 Nov 05 20:38:10 42732 43794 258 H -0.0386 1.0140 18.2S 44.1E 88 22 48 01m21s

----- 5544 Feb 29 19:09:24 42809 43835 255 H -0.0287 1.0143 9.3S 73.5E 88 333 49 01m19s



----- 5547 Dec 19 00:50:09 42896 43882 257 A -0.0208 0.9313 24.3S 15.3W 89 356 257 09m02s  
 ----- 5551 Apr 12 21:22:24 42972 43923 254 A -0.0264 0.9221 7.3N 38.6E 89 344 294 10m32s  
 ----- 5551 Oct 07 03:44:02 42984 43929 259 T 0.1888 1.0658 4.4N 55.5W 79 197 219 06m02s  
 ----- 5558 May 25 01:42:55 43136 44011 253 H 0.0371 1.0125 23.0N 26.4W 88 165 43 01m14s  
 ----- 5558 Nov 17 04:16:20 43148 44017 258 H 0.0185 1.0147 17.9S 67.4W 89 201 50 01m27s  
 ----- 5562 Mar 12 03:50:08 43224 44058 255 H2 -0.0381 1.0169 5.5S 55.1W 88 332 58 01m31s  
 ----- 5565 Dec 29 08:20:17 43312 44105 257 A -0.0609 0.9282 26.4S 124.6W 86 351 270 09m12s  
 ----- 5569 Apr 23 05:11:27 43389 44146 254 A -0.0025 0.9242 12.5N 77.5W 90 330 286 10m14s  
 ----- 5576 Jun 04 09:42:18 43554 44234 253 H -0.0035 1.0122 22.2N 143.1W 90 328 42 01m14s  
 ----- 5576 Nov 27 12:01:28 43565 44240 258 H 0.0704 1.0151 17.2S 179.1E 86 195 52 01m32s  
 ----- 5584 Jan 09 15:58:29 43730 44328 257 A -0.0945 0.9255 27.2S 124.4E 84 346 282 09m18s  
 ----- 5584 Jul 05 03:33:21 43741 44334 262 T -0.5512 1.0666 10.8S 54.8W 56 12 260 06m08s  
 ----- 5587 May 04 12:54:15 43807 44369 254 A 0.0270 0.9268 17.6N 168.1E 88 170 275 09m49s  
 ----- 5591 Feb 20 17:25:32 43896 44416 256 H 0.0564 1.0162 7.8S 102.6E 87 165 55 01m38s  
 ----- 5594 Jun 15 17:31:55 43973 44457 253 H -0.0515 1.0118 20.2N 102.4E 87 353 41 01m14s  
 ----- 5594 Dec 08 19:55:50 43984 44463 258 H 0.1151 1.0153 16.0S 63.2E 83 191 53 01m35s

## 57TH CENTURY CE

In the 57th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar  
 eclipses with two limits, ---- central annular solar eclipses with one limit,  
 ---- non-central annular solar eclipses with one limit), ---- total solar eclipses  
 (---- central total solar eclipses with two limits, ---- central total solar eclipses with  
 one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar  
 eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												
-----	5602	Jan 19	23:43:16	44150	44551	257 A	-0.1224	0.9231	26.7S	11.7E	83	342	292	09m22s
-----	5602	Jul 16	11:21:47	44162	44557	262 T	-0.4916	1.0686	8.0S	170.9W	61	16	255	06m13s
-----	5605	May 14	20:30:31	44228	44592	254 A	0.0619	0.9297	22.5N	55.9E	86	172	264	09m16s
-----	5609	Mar 03	02:05:10	44317	44639	256 H	0.0662	1.0133	3.2S	26.1W	86	164	46	01m21s
-----	5612	Jun 26	01:14:25	44394	44680	253 H	-0.1046	1.0112	16.9N	10.7W	84	358	39	01m13s
-----	5612	Dec 19	03:58:11	44405	44686	258 H	0.1534	1.0155	14.3S	55.0W	81	186	54	01m38s
-----	5620	Jan 31	07:33:15	44572	44774	257 A	-0.1462	0.9213	25.2S	102.5W	81	338	301	09m24s
-----	5620	Jul 26	19:05:16	44584	44780	262 T	-0.4279	1.0699	5.9S	74.7E	65	19	250	06m13s
-----	5627	Mar 14	10:44:59	44739	44862	256 H	0.0754	1.0108	1.6N	155.0W	86	163	37	01m06s
-----	5627	Sep 06	20:13:26	44751	44868	261 H	0.1954	1.0106	15.9N	67.8E	79	197	37	01m06s
-----	5630	Jul 07	08:47:59	44817	44903	253 H	-0.1641	1.0102	12.4N	122.3W	81	2	36	01m08s
-----	5630	Dec 30	12:09:05	44829	44909	258 H	0.1854	1.0156	12.1S	175.6W	79	182	55	01m40s
-----	5638	Feb 10	15:28:40	44996	44997	257 A	-0.1653	0.9198	22.8S	141.5E	80	335	308	09m25s
-----	5638	Aug 07	02:44:03	45008	45003	262 T	-0.3603	1.0707	4.4S	38.1W	69	22	245	06m09s
-----	5645	Sep 17	03:21:37	45176	45091	261 H	0.1170	1.0139	7.4N	39.9W	83	197	48	01m28s
-----	5648	Jul 17	16:15:05	45243	45126	253 H	-0.2284	1.0089	6.9N	127.1E	77	6	32	01m00s
-----	5649	Jan 09	20:26:37	45254	45132	258 H	0.2121	1.0158	9.4S	61.9E	78	178	56	01m42s
-----	5656	Feb 21	23:27:01	45422	45220	257 A	-0.1823	0.9190	19.8S	24.3E	79	333	312	09m25s
-----	5656	Aug 17	10:18:54	45434	45226	262 T	-0.2896	1.0707	3.5S	149.6W	73	25	239	06m01s
-----	5663	Sep 28	10:34:52	45603	45314	261 H2	0.0421	1.0166	0.9S	148.9W	88	197	57	01m44s
-----	5667	Jan 21	04:51:58	45681	45355	258 H2	0.2328	1.0163	6.2S	62.9W	77	174	58	01m44s
-----	5674	Mar 04	07:27:40	45851	45443	257 A	-0.1971	0.9188	16.3S	93.8W	79	331	313	09m25s
-----	5685	Jan 31	13:23:03	46111	45578	258 H2	0.2492	1.0170	2.7S	170.6E	76	170	60	01m47s
-----	5692	Mar 14	15:27:40	46281	45666	257 A	-0.2125	0.9191	12.8S	147.9E	78	331	313	09m25s

58TH CENTURY CE

In the 58th century CE the total number of solar eclipses will be ---- solar eclipses:  
 ---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												
-----	5710 Mar 26 23:27:46	46713	45889	257	A	-0.2280	0.9200	9.2S	29.5E	77	331	310	09m24s	
-----	5724 Dec 12 11:18:45	47067	46071	260	A	0.2752	0.9318	7.0S	153.0W	74	189	265	09m34s	
-----	5728 Apr 06 07:24:51	47147	46112	257	A	-0.2462	0.9215	6.0S	88.2W	76	332	305	09m23s	
-----	5742 Dec 23 18:42:36	47503	46294	260	A	0.3203	0.9287	4.4S	97.8E	71	185	282	10m17s	
-----	5746 Apr 17 15:18:10	47583	46335	257	A	-0.2676	0.9235	3.3S	155.1E	74	334	298	09m21s	
-----	5750 Feb 03 20:18:20	47675	46382	259	H	-0.2824	1.0144	31.4S	83.1E	73	335	52	01m16s	
-----	5754 Nov 11 14:49:35	47791	46441	271	T	0.4537	1.0647	9.1N	157.6E	63	189	237	06m04s	
-----	5760 Jul 09 23:13:51	47929	46511	255	T	-0.3740	1.0619	0.6S	33.6E	68	3	219	06m01s	
-----	5761 Jan 03 02:13:34	47940	46517	260	A	0.3595	0.9259	1.3S	13.6W	69	180	299	10m50s	
-----	5764 Apr 27 23:06:15	48021	46558	257	A	-0.2934	0.9259	1.3S	39.8E	73	337	290	09m18s	
-----	5772 Nov 21 22:46:14	48230	46664	271	T	0.4001	1.0638	3.4N	38.5E	66	185	228	06m05s	
-----	5778 Jul 21 06:58:39	48368	46734	255	T	-0.4351	1.0651	6.3S	82.4W	64	7	236	06m13s	
-----	5779 Jan 14 09:53:11	48380	46740	260	A	0.3917	0.9235	2.1N	127.4W	67	176	314	11m11s	
-----	5782 May 09 06:48:47	48461	46781	257	A	-0.3240	0.9288	0.3S	74.1W	71	340	281	09m13s	
-----	5786 Aug 21 01:08:34	48566	46834	264	H	-0.0742	1.0126	6.9N	6.2E	86	26	44	01m14s	

----- 5796 Jul 31 14:40:05 48810 46957 255 T -0.4993 1.0678 12.9S 161.9E 60 10 255 06m17s

----- 5797 Jan 24 17:38:43 48822 46963 260 A 0.4188 0.9214 5.9N 116.9E 65 173 327 11m18s

----- 5800 May 20 14:24:37 48904 47004 257 A -0.3604 0.9319 0.2S 173.8E 69 344 271 09m04s

# 59TH CENTURY CE

In the 59th century CE the total number of solar eclipses will be ---- solar eclipses:

---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
		GREATEST									°	°		
		ECLIPSE												

----- 5804 Sep 01 08:19:56 49009 47057 264 H2 0.0025 1.0166 7.0N 98.8W 90 201 57 01m35s

----- 5814 Aug 12 22:18:10 49254 47180 255 T -0.5666 1.0698 20.2S 46.2E 55 14 275 06m11s

----- 5815 Feb 06 01:30:09 49266 47186 260 A 0.4412 0.9199 10.1N 0.4W 64 169 337 11m14s

----- 5833 Feb 16 09:26:13 49712 47409 260 A 0.4597 0.9189 14.5N 119.0W 63 166 345 11m01s

----- 5833 Aug 12 23:00:17 49724 47415 265 T 0.0970 1.0675 18.9N 46.9E 84 193 221 06m03s

----- 5851 Feb 27 17:26:15 50159 47632 260 A 0.4747 0.9184 19.1N 121.3E 62 164 349 10m40s

----- 5851 Aug 24 06:34:32 50172 47638 265 T 0.0265 1.0667 11.4N 66.5W 88 195 218 06m05s

----- 5869 Mar 10 01:27:24 50609 47855 260 A 0.4892 0.9185 24.0N 1.3E 61 162 352 10m13s

----- 5887 Mar 21 09:29:06 51061 48078 260 A 0.5033 0.9192 29.1N 118.6W 60 160 352 09m43s

# 60TH CENTURY CE

In the 60th century CE the total number of solar eclipses will be ---- solar eclipses:  
---- partial solar eclipses, ---- annular solar eclipses (---- central annular solar eclipses with two limits, ---- central annular solar eclipses with one limit, ---- non-central annular solar eclipses with one limit), ---- total solar eclipses (---- central total solar eclipses with two limits, ---- central total solar eclipses with one limit, ---- non-central total solar eclipses with one limit), ---- hybrid solar eclipses.

CATALOG	CALENDAR	TD	ΔT	LUNA	SAROS	ECL.	GAMMA	ECL.	LAT.	LONG.	SUN	SUN	PATH	CENTRAL
NUMBER	DATE	OF	s	NUM	NUM	TYPE		MAG.	°	°	ALT	AZM	WIDTH	DUR.
			GREATEST								°	°		
			ECLIPSE											
-----	5905 Apr 01 17:29:26	51515	48301	260	A	0.5186	0.9205	34.4N	122.0E	59	160	350	09m10s	
-----	5909 Jan 18 23:26:54	51611	48348	262	H	0.5047	1.0131	10.1N	41.6E	60	175	52	01m24s	
-----	5945 Aug 05 06:01:40	52538	48800	267	H	-0.0570	1.0130	12.6N	48.4W	87	11	45	01m24s	
-----	5963 Aug 16 13:17:57	52998	49023	267	H2	-0.1291	1.0175	5.2N	157.1W	83	14	60	01m52s	